



INDUSTRY EXHIBITION/SESSION LCWS2019



LCWS 2018, Arlington, Texas
October 24, 2018

Tohru Takahashi
Hiroshima University

1 Nov. 2019
LCWS 2019 Sendai

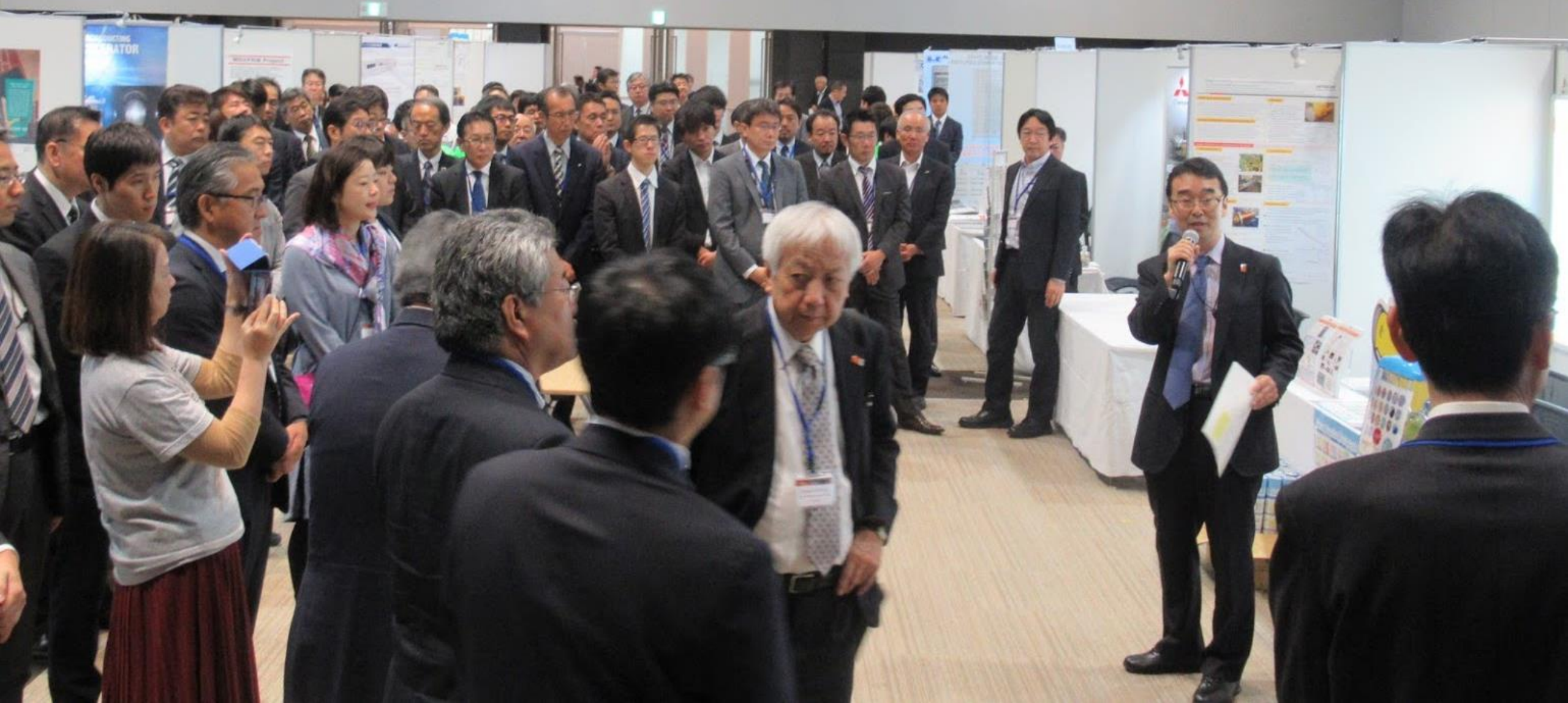
Industry Exhibition



Booth	Company	31	Kyocera Corporation
1	OBAYASHI CORPORATION	32	Mitsubishi Heavy Industries,Ltd.
2	TAISEI CORPORATION	33	Mitsubishi Heavy Industries Machinery Systems, Ltd.
3	TOBISHIMA CORPORATION	34	CANON Electron Tubes & Devices
4	Toda Corporation	35	Dawonsys
5	TAKENAKA	36	SANDINOVA SYSTEMS KK
6	OYO Corporation	37	Cosylab Japan
7	Asia Air Survey	38	AMETEK, Inc
8	Takasago Thermal Engineering Co., Ltd	39	TOKYO BOEKI TECHNO-SYSTEM LTD.
9	NTT FACILITIES,INC.	40	TOKIN Corporation
10	ALSOK	41	KUDO ELECTRIC CO.,LTD
11	KAJIMA CORPORATION	42	IWATE IRON CO.,Ltd.
12	SHIMIZU CO		
13	Maeda Corp		
14	Sumitomo Mi		
15	NISHIMATSU		
16	Tokyo Denka		
17	Airliquide Jap		
18	TAIYO NIPPON SANGO Corporation		
19	Mayekawa Mfg. Co., Ltd	49	Suzuki Kikai Co.,Ltd.
20	Uber Co., Ltd	50	MARUI GALVANIZING CO.,LTD
21	Advanced Accelerator Association Promoting Science &	51	Higashi-Nihon KidenKaihatsu co.,Ltd.
22	Technology	52	WING Co.LTD
23	HITACHI	53	Akita prefectural society for high energy accelerator technology
24	MITSUBISHI ELECTRIC CORPORATION	54	SAKATA RIKAGAKU Co.,Ltd
25	Hamamatsu Photonics K.K.	55	VIC International Co., Ltd
26	R&K Company Limited	56	AKITA CHEMICAL INDUSTRIES Co.,Ltd
27	Nichicon Corporation	57	Sanei-Kikai Co.,Ltd
28	Wuxi Creative Technologies Co.,ltd	58-60	Tohoku Economic Federation
29	Metal Technology Co. Ltd.	61	Miyagi Prefecture
30-31	Kyocera Corporation	62	Senday City
		63	Iwate Prefecture
		64-65	Ryoban Renrakukai

55 Companies (4 outside of Japan)
4 local communities

Short presentation
during the exhibition



International Workshop on Future Linear Colliders

Industry Session

- ILC Technology
- Regional Reports
- Company Reports



CEPC Industrial Promotion Consortium (CIPC) Collaboration Status



Established in Nov. 7, 2017
CIPC Annual Meeting, July 26, 2018



- 1) Superconducting materials (for cavity and for magnets)
- 2) Superconducting cavities
- 3) Cryomodules
- 4) Cryogenics
- 5) Klystrons
- 6) Vacuum technologies
- 7) Electronics
- 8) SRF
- 9) Power sources
- 10) Civil engineering
- 11) Precise machinery.....

Now:

- Huanghe Company, Huadong Engineering Cooperation Company, on CEPC civil engineering design, site selection, implementation...
- Shenyang Huiyu Company on CEPC MDI mechanical connection design
- Zhongxin Heavy Industry on Electric-magnetic separator design
- China Astronautics Department 508 Institute on CEPC MDI supporting design and CEPC magnets mechanical designs...
- Kuanshan Guoli on CEPC 650MHz high efficiency klystron
- Huadong Engineering Cooperation Company, on CEPC alignment and installation logistics...



How does it work



Radiation essentially works on the principle of radiolysis of water. It results in very reactive radical particles.

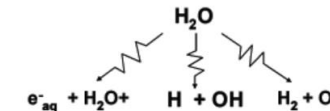
The final result is

Hydrated electrons	→	e^-_{aq} (reducing agent)
Hydrogen atoms	→	H (reducing agent)
Hydroxyl radical	→	OH (oxidising agent)

The high dielectric constant of water helps.

This results in maximum number of reducing as well as oxidising agents much larger than is possible by any chemical reagent.

Radiation ionises the water, resulting in water molecules in highly excited states. They decay in less than 10^{-12} seconds resulting in



Four Active Radicals e^-_{aq} H^* OH^* H_2O_2 to burn the bio degradable waste completely as well as to oxidising heavy elements.

J. Gao

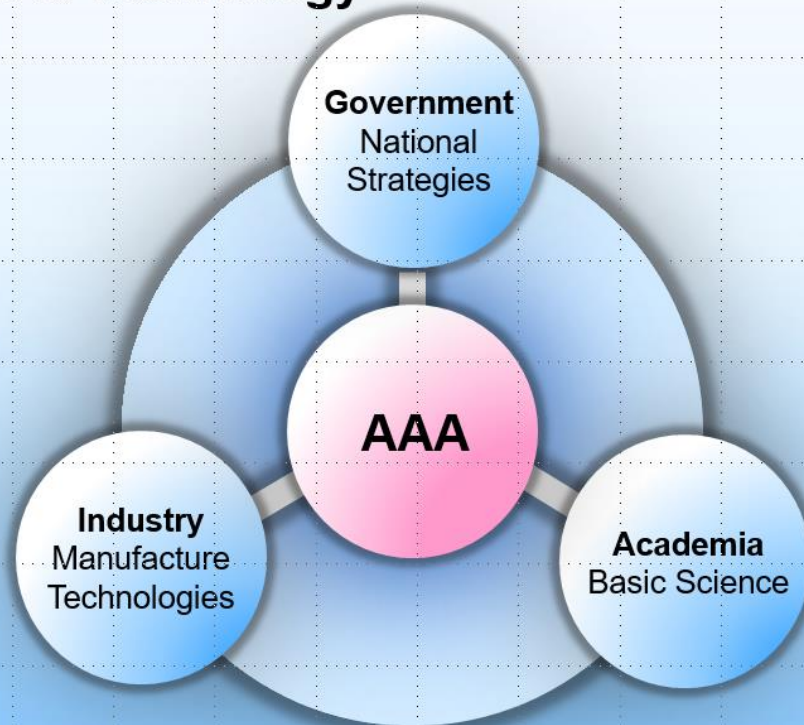
R. Varma

Our vision

Affluent Future with Advanced Accelerator Science & Technology



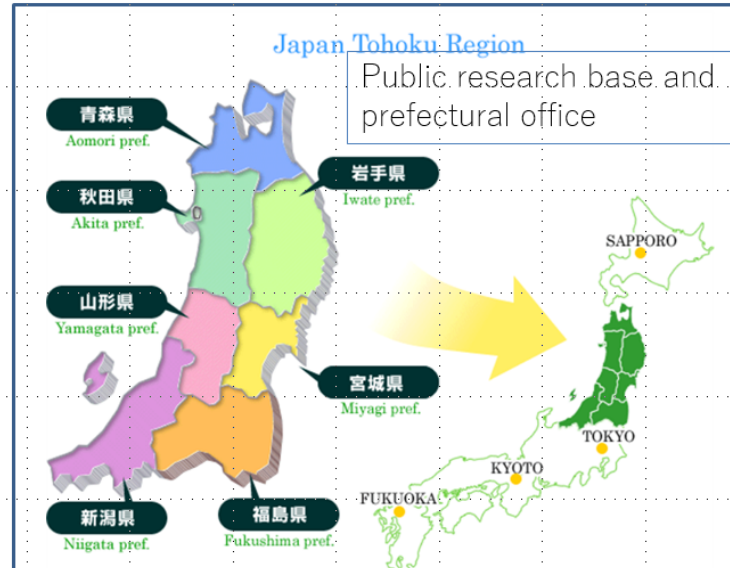
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M. Matsuoka



TOHOKU ECONOMIC FEDERATION
BUSINESS CENTER



Advanced Accelerator Association Promoting Science & Technology

Collaborative efforts by

- ① Local governments
- ② Prefectural research bases
- ③ AAA (all Japan)
- ④ TOHOKU ECONOMIC FEDERATION
- ⑤ Academy



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M. Yoshioka

EU-Japan Regional Cooperation Helpdesk

Launched of Oct. 2019

A bridge for industrial cooperation
between Europe and Japan

Dr Virginie Fermaud

EJRC Helpdesk, Coordinator - project manager

European Center for Japanese Studies, Director

Mission

- **Promote cooperation:** industry, trade, investment, research and innovation, tourism and people mobility
- **Informe and guide** European regions and clusters, Japanese Prefectures and Clusters
- **Stimulate new EU-Japan regional partnerships**
- **Bring dynamism to regional economies taking into account local specificities**
- **Include EU+Japan jointly operating vis-a-vis third country** (Africa, South East Asia)



V. Fermaud

CLIC INDUSTRIALIZATION STUDIES

N. Catalan Lasheras, N. Kokkinis, A. Magazinik, J. Sauza
Bedolla

30.10.2019 LCWS2019 Sendai

Industrial survey

Two types: technical and general

- **Technical (Industrialization study):** aim to assess feasibility and readiness level of companies to go to the mass production of one of the most challenging component – AS
- **General (a part of Societal Impact Assessment):** aim to get industrial feedback on the benefits from collaboration with the CLIC project → assess possible impacts.

US DOE SBIR/STTR Program

SMALL BUSINESS INNOVATION RESEARCH AND SMALL BUSINESS TECHNOLOGY TRANSFER

The SBIR and STTR programs are U. S. Government programs, intended to help certain small businesses conduct R&D.

Energy Production & Use

Environmental Management

Fundamental Energy Sciences

Energy Storage & Security

Defense Nuclear Nonproliferation

M. Shinn

Program Manager for Industrial Concepts

- Industry Reports

- MIRAPRO

Y. Machida

- WuXi Creative

C.Wang

- INEUSTAR

E. Fernandez

- Lakeshoire cryotronics

S. Courts

- Short presentation

- AMETEK ZYGO ZPS

R. Sakamoto

- TDC Co.

Y. Akabane

- DAWONSYS

D.Kim

- COSYLAB

R. Hrovatin

- NEC

M. Takagi

- R&K

R. Kobana

Business To Business Platform



acc. community



Industry



Industry

B2B Platform

In this workshop

- Short Presentation
in the industry exhibition
- One line questionnaire
- Distribute summary in the exhibition
-> data base to share information

LCWS2019

Industry Exhibition/Session Questionnaire

Please fill out the form to stimulate communication in the LCWS2019 industry exhibition and session

Name of company



Website

Contact person

E-mail address of the contact person

Area of activities

- ☐ Accelerator Components ☐ Detectors / Sensors ☐ Robotics
☐ Information / Computing ☐ Civil Engineering & Utilities

Company		INEUSTAR, the Spanish Science Industry Association
Country		Spain
Web Site		http://www.ineustar.com/en
Area of Activity	Accelerator Components	x
	Detectors / Sensors	x
	Information / Computing	x
	Robotics	
	Civil eng. & util.	x
	Other activities	All segments within Science Industry sector
Services/products offered		Our associated companies work in: Particle Physics; Fusion Science; Astrophysics and Space Sciences; Energy & TICs; Biology & Life Sciences; and GICs Engineering and Infrastructures
Services/products required		
Collaborations/partners required		
Messages/References		INEUSTAR is the Spanish Science Industry Association. Its associated companies have capabilities in accelerator components, detectors, sensors, robotics, information, computing, civil engineering and utilities. You can contact our associated companies through us. Or contact INEUSTAR directly for other kinds of collaborations.

- One line questionnaire

- LCWS2019 exhibition

-> database to share information

Summary

- Exhibition + Session
 - Industry–Academia collaboration is more and more active
 - Very good opportunities to exchange information
 - New direction ? B2B Platform

Acknowledgement

Particularly to our Tohoku Colleagues

Ken-ichi Kon

Ko-ichhi Higashiyama