

# Fine Bubble Technology



Fine bubble technology is an innovative technology that has the potential applications for range of industries including cleaning, sterilization, agriculture, plant cultivation, fisheries, food, beverage, medical pharmaceutical, and healthcare etc. The technology is expected to be one of key industries that will develop globally in near future. Fine Bubble Industries Association (FBIA) is promoting activities to create the new market through the international standardization of fine bubble technology.

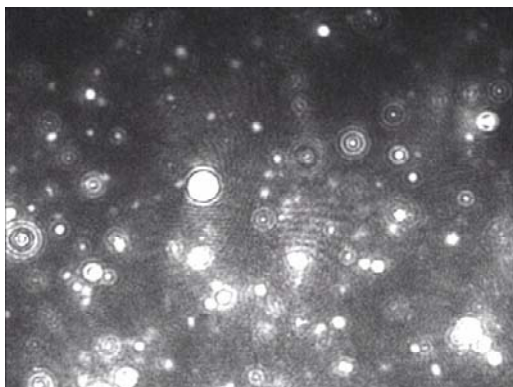
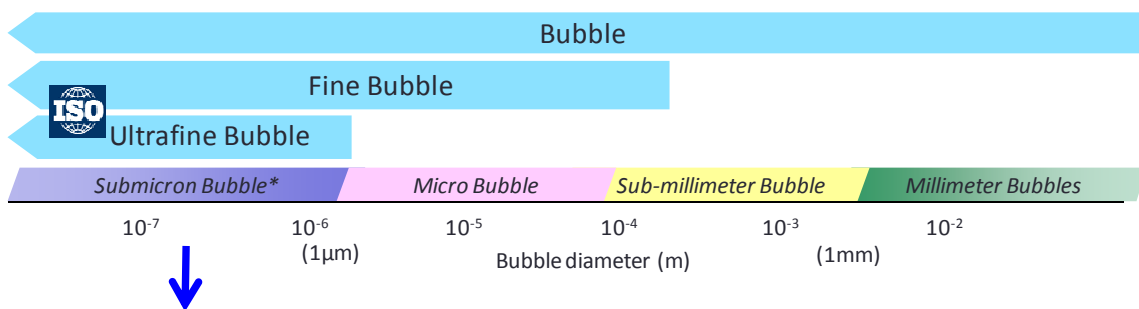
## Various potential applications of Fine Bubble Technology



Vide clips of actual examples of fine bubble applications are available to see on <http://youtu.be/TnNArMI1Lts>

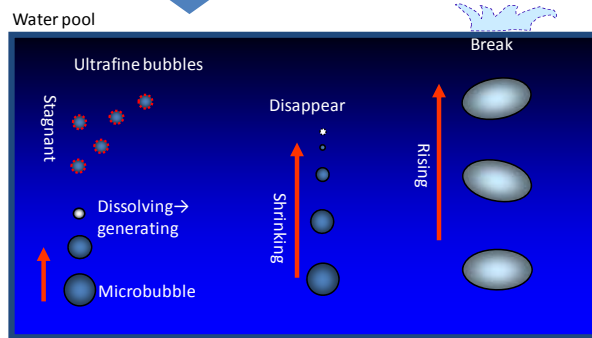
An article on fine bubble technology was published in the May/June 2014 issue of ISO focus #104:

[http://www.iso.org/iso/home/news\\_index/news\\_archive/news.htm?Refid=Ref1844](http://www.iso.org/iso/home/news_index/news_archive/news.htm?Refid=Ref1844)



Ultrafine bubble (Diameter: 100-200nm, Density: 4X10<sup>9</sup>/ml)

Fine bubble has unique behavior !!



Ultrafine bubble

Microbubble

Milli-bubble

# ENTECH POLLUTEC ASIA 2014

4 - 7 June, 2014

## JAPAN Pavilion



Date: 10:00 - 18:00, 4 - 7 June, 2014

Venue: Bangkok International Trade & Exhibition Centre (BITEC)

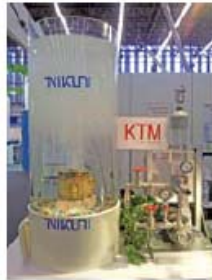
Booth No.: H1-5

<http://www.entechnollutec-asia.com/en-us/home.aspx>

Live demonstrations will be demonstrated by FBIA member companies of fine bubble generator and measurement equipments at the booth. -IDEC, Nikuni, OK ENGINEERING, SHIMADZU –



[IDEC CORPORATION] ultrafineGALF(CE)



[Nikuni Co., Ltd.]



[OK ENGINEERING Company Ltd.]



[SHIMADZU CORPORATION]



# 3<sup>rd</sup> International Symposium of Fine Bubble Technology

Fine bubbles innovation using “micro- to nano-size bubbles”



## [ Objective ]

Fine bubble technology is an exciting innovative technology that has the potential applications for an impressive range of industries including: cleaning, medical, pharmaceutical, healthcare, agriculture, fisheries, food production, and drinking water, to name but a few. The indications are that it will become a key industry in the near future.

ISO/TC 281 is promoting the international standardization activities of fine bubble technology to foster the healthy fine bubble market. In this symposium, not only the presentations on the generation and measuring methods, but also the examples of various fine bubble applications for industrial uses will be presented. Presenters leading the industry, including researchers from the Kasetsart University of Thailand, or the advanced industrial science and technology (AIST); one of the largest Japanese research center, will make the presentations on the recent outcomes of study on application areas, topics of fine bubble generation technology, introduction of measuring technologies, and the need of the international standardization.

Date: Thursday, 5<sup>th</sup> June, 2014

Venue: Conference room MR224-MR225, 2<sup>nd</sup> Floor of Bangkok International Trade & Exhibition Centre (BITEC)

Host: Fine Bubble Industries Association (FBIA), Advanced Industrial Science and Technology (AIST),  
Ministry of Industry (MOI), Thailand

Admission: Free

Language: Thai and Japanese (Translation service will be provided)

## [ Program ]

- 13:00 Opening remarks and Keynote speech  
"Characteristics of fine bubble generation, cleaning of solid particles - Prospects for future "  
Dr. Akira Yabe, Chairman of FBIA , Vice President of AIST, Convener of ISO/TC 281 WG1
- 13:30 "Highway road management using ultrafine bubble water - Cleaning of bridges and toilets in service areas"  
Mr. Tadashi Nagai, Manager Division of Public Relations, West Nippon Expressway Company Limited, Member of FBIA.
- 14:00 "Using Fine Bubbles Technology Combined with Sanitizers to Enhance Food Safety for Vegetables Consumption."  
Dr. Warapa Mahakarnchanakul, Assistant Professor, Department of Food Science and Technology,  
Faculty of Agro-Industry, Kasetsart University, Thailand
- 14:30 Break
- 14:50 "Measurement of fine bubbles" (tentative)  
Dr. Haruo Shimaoka, Product Manager, ISO/TC 281 WG2 experts, Shimadzu Corporation, Member of FBIA
- 15:20 "International standardization of fine bubble technology and creation of a new industry initiated by Fine Bubble Industries Association"  
Dr. Toshihiro Fujita, Chair of Japan National Mirror Committee of ISO/TC 281, Vice Chairman of FBIA, and Chief Technology Officer of IDEC Corporation
- 15:50 Closing address: Dr. Toshihiro Fujita, Vice Chairman of FBIA

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## [ Registration ]

Please apply to Ms. Peeranuch, Yamato 21st Century Co., Ltd. (Email: [yscbkk@cscoms.com](mailto:yscbkk@cscoms.com), Tel: +66-2215-0908) with your name, title, company/organization name, tel., email address.

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Please visit the reception desk if you are attending the symposium without the registration.

For details, please contact Fine Bubble Industries Association (FBIA): [info@fbia.or.jp](mailto:info@fbia.or.jp)