

Biography

Name: Akira YABE, Dr. Eng.



Akira Yabe is a Special Advisor & a Researcher Emeritus of National Institute of Advanced Industrial Science and Technology (AIST) and a Member of Science Council of Japan. He serves for ISO (International Organization for Standardization) as the Convenor of ISO/TC281 Fine Bubble Technology /WG3.

He has also been a Fellow and a former Director General of Technology Strategy Center of New Energy and Industrial Technology Development Organization (NEDO), National Research and Development Agency of Japan from 2015. Before entering NEDO, he had been a Vice-President of AIST as Director General for Environment and Energy Research Fields for 7 years.

In 1979, he completed PhD in Mechanical Science and Engineering, Tokyo Institute of Technology and joined Mechanical Engineering Laboratory (MEL) of Ministry of International Trade and Industry (MITI) of Japan.

He had concurrently been a Professor of Institute of Engineering Mechanics and Systems, University of Tsukuba (1992-2010), Adjunctive Professor of Science University of Tokyo (1995-2009), Russell Severance Springer Professor, Department of Mechanical Engineering, University of California, Berkeley (2001), Professor (Cooperative Chair) of Tokyo Institute of Technology (2005-2013), Adjunctive Professor of Kanazawa Institute of Technology (1997-2013).

He also served as the President of the Japan Society of Mechanical Engineers (JSME) (2013-2014).

Areas of expertise:

Energy Engineering and Global Environment Protection, Renewable Energy Engineering, Energy System Engineering, Hydrogen, Energy Conservation, Heat Transfer, Heat Pump Technology, Mechanical Engineering, Ultra-fine Bubble Technology

Biography

Seiichi OSHITA (Family name: OSHITA, First name Seiichi)
Project Professor,
Graduate School of Agricultural and Life Sciences, The University of Tokyo

Professional Experience:

1978 Assistant Professor,
Faculty of Agriculture, Mie University
1986 Associate Professor (same as above)
1994 Associate Professor
Graduate School of Agricultural and Life Sciences, The University of Tokyo
2002- Professor (same as above)
2017- Project Professor
Research Center for Food Safety,
Graduate School of Agricultural and Life Sciences, The University of Tokyo

Overseas research history

1987-1988 Visiting Researcher, University of Lyon I (France)
2002-2003 Visiting Professor, Katholieke Universiteit Leuven (Belgium)

Awards

2000: Outstanding Paper Award
(CIGR: International Commission of Agricultural Engineering)
2001: Outstanding Contribution Award (IFAC: International Federation of Automatic Control)
2009: Science Award (Japan Society of Refrigerating and Air Conditioning Engineers)
2012: Fellow & Achievement Award (Japanese Society of Agricultural, Biological and Environmental Engineers and Scientists)
2013: Fellow of JAICABE (The Japan Association of International Commission of Agricultural and Biosystems Engineering)

Academic activity

1996 – 2006 Board Member of Section VI of CIGR (CIGR: International Commission of Agricultural Engineering)
2011- 2015 President of JSAM (Japanese Society of Agricultural Machinery and Food Engineers)
1994-1997, 2001- present Member of Science Council of Japan (SCJ)

Research fields

- Fine Bubble Technology and its application
- Quality evaluation of foods and agricultural products

Biography

Seika Ohuchi

Experience

Manager, **National Institute of Technology and Evaluation**, Global Center for Evaluation
Technology

Sep 2013 – Present

Analyst, **IP Electronics Co., Ltd.**, Consulting and IT service company

Sep 2010 – Aug 2013

Technical Engineer, **Tohoku University**, Department of applied chemistry

Apr 2004 – July 2007

Researcher, **Procter & Gamble**, Chemical consumer product company

Jan 2000 – Mar 2003

Researcher, **JO Cosmetics Co., Ltd.**, Cosmetics company

Apr 1995 – Dec 1999

Education

Mar 1995: Bachelor of Engineering, Industrial Chemistry, **Tokyo Metropolitan
University**

Biography

Hirona Kobayashi

Experience

Staff, **National Institute of Technology and Evaluation**

April 2013 – Present

- Chief, Fine Bubble Technology Office, Global Center for Evaluation Technology,
National Institute of Technology and Evaluation,

April 2017 – Present

Education

Mar 2013: M.S. in Life Science and Technology, **Tokyo Institute of Technology University**

Biography

Name: Mitsuru TANAKA (Dr.)

Gender: Male

Nationality: Japan

Education:

1972 Graduated from Tokyo University

1977 Graduated from Tokyo University, PhD (Physics)

Profession:

1977~ National Research Laboratory of Metrology, AIST, Japan

2004-2008 Head of National Metrology Institute of Japan, AIST

2008-2015 Fellow, AIST(Advanced Institute for Science and Technology)

2015- Fine Bubble Industries Association

Standardization and Certification related:

2001-2011 Member of International Committee for Weights and Measure

2001-2005 Member of Int'l Committee for Legal Metrology

2015-2019 Head, Certification Activity of FBIA

Currently, Experts for ISO/TC 281, ISO/TC 12, ISO/TC 229

Research Project

2001-2005 Leader:Nat'l Project for Nanometer measurement standard materials

Fields of Interest:

Measurement of Fine Bubbles

Nano-Metrology

Nano Materials

Precision Measurement of Density, Determination of the Avogadro

Definition of Measurement Units

Biography

Takeyuki Fuse

Experience

Sony Corporation, Standard & Partnership Department, etc.,

Engaged in standardization work MO disk, MD disc, CD-R disc and DVD.

- May 1985 – December 2009

General manager, **Fine Bubble Industries Association**

Engaged in the development project leader of international standardization standards for fine bubble technology and the secretariat of the international secretary country

- May 2016 – Present

Education

Mar 1982: Department of Electrical Engineering, Faculty of Engineering, **Tohoku Gakuin University**

Hyoungjun Kim

IrehEnvit Corp. 19-49, Heyri-ro 133beon-gil, Tanhyeon-myeon, Paju-si,
Gyeonggi-do, Republic of Korea
(Tel. : +82-31-8035-5471, Email: kimhj9415@hanmail.net)

Education

2003.3. – 2007.2. B.S. at Seoul National University, Dept. of Civil, Urban and
Geosystem Engineering

2007.3. – 2014.8. M.S. at Seoul National University, Dept. of Civil and
Environmental Engineering

2007.3. – 2014.8. Ph.D. at Seoul National University, Dept. of Civil and
Environmental Engineering

(Dissertation : A Study on the Development of Sub-micron Bubble Generator and
Characterization of Sub-micron Bubble)

Job Experience

2014.9. – 2015.3. Researcher at Seoul National University,
Engineering Research Institute

2015.5. – Senior researcher at IrehEnvit Corp.

Field of Research Interest

- Micro and Nano bubble generation for drinking water treatment
- Application of bubble generator in natural water system for removing algae

Prof. Jong-Shinn Wu received his MS and BS degrees both in Mechanical Engineering, NTU, Chinese Taipei, in 1986 and 1988, respectively, and his PhD degree in Aerospace Engineering, University of Michigan, Ann Arbor, USA, in 1994. After being a postdoc for 1.5 years, he worked at the National Space Organization (NSPO), Chinese Taipei. Afterwards, he joined Mechanical Engineering Dept., National Chiao Tung University, Chinese Taipei in 1998 till now. Now he is a Distinguished Professor, the Director of Advanced Rocket Research Center and the President of Chinese Taipei Association of Plasma & Technology. He is an ASME Fellow, AIAA Associate Fellow, AIAA Hybrid Rocket Technical Committee member, and IEEE member. He has received the most prestigious Outstanding Research Award of Ministry of Science & Technology of Chinese Taipei in 2018. His research interests include rarefied gas dynamics modeling, rocket propulsion, non-equilibrium plasma modeling, atmospheric-pressure plasma applications (in biomedicine, agriculture, and industry), and general parallel scientific computing. He has published >130 journal papers and >300 international conference papers until now with an H-index of 29 and more than 3,000 citations. He was the Associate Editor of the International Journal of Plasma Science & Engineering, and the Guest Editor of Computers & Fluids, IEEE Transactions on Plasma Science and Journal of Computers and Mathematics with Applications. He has been members of the Advisory/Organizing Committee of many important international conferences in plasma and computational fluid dynamics for the past 10 years.

Biography

Sahori NISHIMURA

Experience

Staff, **National Institute of Technology and Evaluation**

April 2018 – Present

- Staff, Fine Bubble Technology Office, Global Center for Evaluation Technology,
National Institute of Technology and Evaluation,
April 2019 – Present

Education

March 2018: Master of Global Environmental Studies, **Kyoto University**

Chile

Manuel Vial – Head of R&D at Kran

Manuel is a civil engineer from the Pontificia Universidad Católica de Chile and currently leads the Research and Development department at Kran. He started early in the world of entrepreneurship by co-founding a transportation company for events in the pre-Uber era, and then he was COO of Cars & Coffee Chile allowing this automobile phenomenon to expand to more than 30 countries. Later, he worked as a consultant for large-scale mining technology projects before entering the world of ultra-fine bubbles as he joined Kran in the Chilean Patagonia.

The driving forces of inspiration throughout Manuel's life are nature and technology, and he is convinced that the former must provide the guidelines and secrets for the development of the latter to allow a sustainable evolution in tune with the environment. He enjoys being outdoors fly fishing, climbing mountains and sailing the seas.

China

Biography

LI Zhaojun is a professor from Institute of Process Engineering, Chinese Academy of Sciences. I got my Bachelor degree from Xi' an Institute of Metallurgy and Construction Engineering and Master degree from Institute of Chemical Metallurgy (now it is renamed as Institute of Process Engineering), Chinese Academy of Sciences. I have worked in the institute since 1986. Mainly I study on electrochemistry in industry and new materials development. I have developed some standards relating to particle characterization. No I am the secretary general both in the Micro/nano Bubble Committee of Chines Society of Particuology and National Technical Committee 584 on Fine Bubble Technology of Standardization Administration of China.

Indonesia

Curriculum Vitae

Prof. Aris Purwanto
Department of Mechanical and Biosystem Engineering
IPB University Indonesia
E-mail: arispurwanto@apps.ipb.ac.id

Aris Purwanto is a professor in Biosystem Engineering in the Department of Mechanical and Biosystem Engineering, IPB University. His doctoral degree in the field of Biological and Environmental Engineering was received from The University of Tokyo Japan. He was awarded a JSPS Postdoctoral program at The University of Tokyo, Japan, from 2004 to 2006. His research interest mainly in biosystem engineering and the application of fine bubble technology to aquaculture farming. Since July 2020, Aris Purwanto has been assigned by the National Standardization Agency of Indonesia as coordinator of the Technical Commission of Indonesian National Standard for Fine bubble Technology.

Experience

Seiichi OSHITA (Family name: OSHITA, First name Seiichi)
Project Professor,
Graduate School of Agricultural and Life Sciences, The University of Tokyo

Professional Experience:

1978 Assistant Professor,
Faculty of Agriculture, Mie University
1986 Associate Professor (same as above)
1994 Associate Professor
Graduate School of Agricultural and Life Sciences, The University of Tokyo
2002- Professor (same as above)
2017- Project Professor
Research Center for Food Safety,
Graduate School of Agricultural and Life Sciences, The University of Tokyo

Overseas research history

1987-1988 Visiting Researcher, University of Lyon I (France)
2002-2003 Visiting Professor, Katholieke Universiteit Leuven (Belgium)

Awards

2000 : Outstanding Paper Award
(CIGR: International Commission of Agricultural Engineering)
2001: Outstanding Contribution Award (IFAC: International Federation of Automatic Control)
2009: Science Award (Japan Society of Refrigerating and Air Conditioning Engineers)
2012: Fellow & Achievement Award (Japanese Society of Agricultural, Biological and Environmental Engineers and Scientists)
2013: Fellow of JAICABE (The Japan Association of International Commission of Agricultural and Biosystems Engineering)

Academic activity

1996 – 2006 Board Member of Section VI of CIGR (CIGR: International Commission of Agricultural Engineering)
2011- 2015 President of JSAM (Japanese Society of Agricultural Machinery and Food Engineers)
1994-1997, 2001- present Member of Science Council of Japan (SCJ)

Research fields

- Fine Bubble Technology and its application
- Quality evaluation of foods and agricultural products

Biography

Chang Gyun Kim

Dr. Kim is working as a professor at INHA University, Incheon, Korea since 2003. He had a bachelor's and master degree in Environmental Engineering in 1986 and 1988, respectively from INHA University, Korea. He became a pH.D at University of Queensland, Australia in 2000. He worked as a researcher from 1989 to 1994 at Research Institute of Industrial Science and Technology (RIST), Korea. And he worked as senior researcher at Pohang Iron & Steel Institute (1994-1997) and RIST (1997-1999), respectively. His field of interests in research and development has covered in environmental engineering, in detail, biological soil/groundwater remediation and wastewater treatment or biomineralization in the field of soil/groundwater remediation and wastewater treatment.

In the ecological or toxicological aspect, registered publications are as in the following.

- Quantification of residual antibiotics in cow manure being spread over agricultural land and assessment of their behavioral effects on antibiotic resistant bacteria, *Chemosphere*, 2017.
- Spectroscopic quantitation of tetrazolium formazan in nano-toxicity assay with interval-based partial least squares regression and genetic algorithm, *Chemometrics and Intelligent Laboratory Systems*, 2016.
- Degradation of long-resistant pharmaceutical compounds - carbamazepine and diatrizoate using mixed microbial culture, *Journal of Environmental Science and Health Part A-Toxic/Hazardous Substances & Environmental Engineering*, 2015.
- Biokinetic Modeling of Ureolysis in *Sporosarcina pasteurii* and its Integration into a Numerical Chemodynamic Biocalcification Model, *Chemical Geology*, 2014.
- Microbial monitoring of acid mine drainage treatment systems and aquatic surroundings using real-time PCR, *Water Science and Technology*, 2009.
- Attenuation of landfill leachate at two uncontrolled landfills, *Environmental geology*, 2006.

His funded projects (completed and in-progress) are as in the following.

Completed projects (Nearly three years)

- Chemisorption-biodecomposition of long resistant pharmaceutical using superparamagnetic nanoparticles (Oct/2013-Sep/2015)
- Development of biomimetic technology for acid soil rehabilitation using biocalcification process (Jun/2015-May/2016)
- Development of biological soil neutralizer and soil treatment system for neutralization of acidic soil (Sep/2016-Feb/2017)

Ongoing projects.

- Study on degradation and adsorption of long-resistant pharmaceutical using biological treatment or superparamagnetic nanoparticle (Since Jun/2014)
- Optimization of oil/water separation process using nut shell filter and development of next generation backwash system using micro-bubble jet (Since May/2017)
- Biodecomposition of micro-plastic using encapsulated microbes with EPS (Since Jun/2017)

Singapore



Dr Chee-Wee Lee

Centre Director, Aquaculture Innovation Centre, Singapore

Technology Advisor, Temasek Polytechnic, Singapore

Assoc Prof (Adj), National University of Singapore

Assoc Prof (Adj), Nanyang Technology University

Dr Lee has more than 25 years of dynamic, hands-on experience and networking in providing technological innovation and solutions to enterprises across the globe. He received his BSc and MSc from McGill University, Canada, and PhD from the University of Alberta, Canada. He was a recipient of the Alberta Heritage Foundation Scholarship for Medical Research. Dr Lee had carried out his Post-doctoral Fellowship at Yale University School of Medicine, USA, before pursuing his academic career at the School of Medicine, National University of Singapore, where he is currently an Adjunct Associate Professor. He is an honoree of Singapore Spirit of Enterprise and a graduate of Harvard Business School GMP. He also serves as Scientific Advisor or Consultant to many life science companies and organizations.