



The Combustion Institute

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Toshiro Fujimori

Candidate, 2016 CI Board of Directors

Reasons for Nomination

As an engineer and project manager of a heavy industry company, I have been conducting R&D and designing combustion systems for gas turbine and coal-firing power generation from commercial products to next-generation technologies such as oxy-fuel pulverized coal firing boiler. Combustion technologies are applied in wide industry fields like energy, transportation or manufacturing. However, as the issue of global warming is remarkable, the industry faces big challenges reducing emission of carbon dioxide and other pollutants. In developing countries, cleaner combustion technologies are indispensable to stable growth of the economy. Conventional engineering appears be limited to solve these issues; scientific and comprehensive approaches are necessary. I have experiences to cooperate with combustion researchers in various R&D projects and achieved not only technological, but also commercial successes with them. Closer relationships between academy and industry enable to share the problems and solving them. The combustion institute consists of top class scientists and transmits cutting-edge knowledge. I feel honored to be nominated as a candidate of the board members. In case of election, I would like to share the challenges the industry is facing, and to contribute strengthening the relationship between academy and industry for solving them. "Think together for smart combustion!"



Toshiro Fujimori

See next page(s) for candidate's curriculum vitae.

TOSHIRO FUJIMORI

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EMPLOYMENT AND PROFESSIONAL EXPERIENCE

2015-present Incumbent
2011-2015 Deputy Director, Research Laboratory, Corporate Research & Development
2007-2011 Manager, Department of Heat and Fluid Mechanics, Research Lab., Corp. Research & Development
2003-2008 Technical Manager, Department of Combustion Technology, Energy Power Plant Division.
1988-2003 Research Engineer, Corporate Research Laboratory, Ishikawajima-Harima Heavy Industries Co. Ltd. (Predecessor organization of IHI)

ACADEMIC DEGREE

1996 D. Eng., Mechanical Engineering, Tohoku University, Sendai, JAPAN, Dissertation "Study of mechanism of flame holding by shock waves in supersonic flows"
1988 M. Eng., Mechanical Eng., Tokyo Institute of Technology, Tokyo, JAPAN

MAJOR RESEARCH AND DEVELOPMENT EXPERIENCE

2014-present Management of business and product development projects related to energy systems
2003-present R&D of Twin-Fluidized Gasifier for Lignite and Biomass
A project leader of research and development. The R&Ds successfully completed and an engineering scaled plant was constructed in Indonesia. The patents related to this are over 100.
2003-present R&D of Oxyfuel Combustion Technology for Coal Firing Power Plant Boiler
Conducted fundamental and numerical researches. 30 MW oxy-fuel coal firing power plant was constructed in Queensland, Australia as Japan-Australia International Joint Project, and successfully operated over 10,000 hours.
2003-2009 R&D of Pulverized Coal Burner for Low Volatile Coals
Developed the burner as a primary engineer of the burner. The first commercial project was completed by 2014.
2001-2011 Research and Assessment of Detonation of Accumulated Gases in pipeline of BWR Nuclear Plant
A leader of investigation group of detonation of the accident analysis project. A guideline for risk assessment (JANTI-NCG-01) was issued by Japan Nuclear Safety Institute.
1997-2002 R&D of High Temperature Combustion Technology for Industrial Furnaces
1993-2002 Developed Dry Low NOx Combustion Technology of IHI Industrial Gas Turbine, IM270
Developed prediction of combustion oscillation and designing method
30 peer reviewed papers including eight (8) papers in the *PCI*.

AWARDS

2011 Technology Award, Society of Chemical Engineers, Japan (SCEJ)
2010 Technology Award, Combustion Society of Japan (CSJ)
2009. Kanda Memorial Award, Thermal and Nuclear Power Engineering Society.
1999 Best Paper Award, Japan Society of Aeronautical and Space Sciences (JSASS)

INVITED TALKS

2012 34th Symp., Topical Rev., "Realization of oxyfuel combustion for near zero emission power generation", *PCI*, Vol. 34, No.2, 2013, pp. 2111-2130
2011 43rd KOSCO., Plenary Lecture, "Detonation of Accumulated Gases in BWR Nuclear Steam Tube"
2007 6th ASPACC, Nagoya, Topical Rev., "A Novel Twin Fluidized Bed Gasification Process for Low Rank Coal"

SOCIETY MEMBERSHIP AND ACTIVITIES

Combustion Society of Japan (1996-present, 2009-present Board of Directors), *Japan Society of Mechanical Engineering* (1996-present, 2016 Fellow), *Gas Turbine Society of Japan*, (1996-present), *Japan Society of Aeronautical and Space Sciences* (1999-present), *Japan Coal Energy Center* (2005 – 2009, Member of Technical Committee)