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CURRICULUM VITAE

Toyoki Kozai

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Personal Information: Born 25 September 1943, Tokyo, Japan
Male, Married 1967, three children

Academic Degrees

Ph.D. Department of Agricultural Engineering,
The University of Tokyo, March 1972
M.S. Department of Agricultural Engineering,
The University of Tokyo, March 1969
B.S. Department of Horticulture, Chiba University
March 1967

Employment History

April 2009 – Present	Emeritus and Visiting Professor, Center for Environment, Health and Field Sciences, Chiba University
April 2008-March 2009	Professor, Center for Environment, Health and Field Sciences, Chiba University
April 2005-March 2008	President of Chiba University
April 2003-March 2005	Director, Research Center for Environment, Health and Field Sciences, Chiba University
April 1999-March 2003	Dean, Faculty of Horticulture, Chiba University
April 1990-March 2005	Professor, Department of Bioproduction Science, Faculty of Horticulture, Chiba University
March 1977-March 1990	Associate Professor, Department of Horticulture, Faculty of Horticulture, Chiba University
March 1973-March 1977	Research Assistant, Department of Agricultural Engineering, Faculty of Agriculture, University of Osaka Prefecture

Other Professional Experience

March -September 1989	Visiting Researcher, Department of Biological and Agricultural Engineering, Cook College, Rutgers University, New Jersey, USA
November 1974-May 1975	Post-doctoral Fellow, Center for Agro-Biological Research, Wageningen, The Netherlands

Summary of Academic achievements

Publications: 270 original papers, 140 review papers, 137 book or book chapters, 6 translations of books from English to Japanese
Patents: 20 active patents, 50 approved patents in total
Number of Invited Lectures at International Meetings: 50
Number of Invited Lectures at National Meetings: 85
Number of Adjunct Lecturers at Universities: 13

Number of International Travels: 80 times
Number of Articles on Academic Achievements in Newspaper and Magazines: 80
Number of International Visitors who stayed for longer than 3 months: 22
Number of International students accepted: 18
Number of Researchers/Graduate Students who Obtained Ph.D. Degrees: 18
Number of Awards/Honors Received: 8

National and International Awards

- 2009 Awarded for Lifetime Achievement from The Society for In Vitro Biology
- 2003 Awarded for outstanding contribution from Japanese Society of High Technology in Agriculture
- 2002 Purple Ribbon Award from Prime Minister of Japanese Government for the academic achievement of environmental studies in biology.
- 2002 Friendship Award from Chinese Government for the achievement of outstanding contribution to Chinese horticultural industry
- 2000 Fellow, Japan Association of International Commission of Agricultural Engineering
- 1997 Japan Prize for Agricultural Science for the academic achievement
 “Growth Regulation and Mass-propagation of *in vitro* plantlets
 by Physical Environment Control” awarded by Japanese Academy
 of Agricultural Sciences and by Yomiuri Newspaper Co.
- 1992 Prize for academic achievement in “Environmental Control in
 Photoautotrophic Plant Tissue Culture” awarded by Japanese
 Society of Environment Control in Biology.
- 1991 Prize for academic achievement in “Fundamental Research on
 Environmental Control Methods for Factory-type Transplant
 Production” awarded by Japanese Society of High Technology in
 Agriculture.
- 1982 Prize for academic achievement in “Solar Light Transmission in
 Greenhouses” awarded by the Society of Agricultural Meteorology of
 Japan

Selected International Professional Activities I (Academic Societies)

1989-2001	Advisory Board Member, International AI (Artificial Intelligence) Foundation, Tokyo, Japan
1991-2006	Editorial Advisory Board Member, Scientia Horticulturae (an international journal sponsored by the International Society for Horticultural Science)
1991-1995	Scientific Advisory Panel Member, CCEA (Center for Controlled Environment Agriculture, a research center of the New Jersey Agricultural Experiment Station, Cook College, Rutgers University, NJ, USA)
1993-present	Advisory Committee Member, Asia-Pacific Association for Micropropagators (APAM), Ho Chi Minh, Vietnam
1993-present	Member, Board of Directors, International Agri-biotechnology Association of Japan (IABA-J), Tokyo, Japan.
1994-present	International Editorial Board Member, Horticultural Science, Hungary
1995-1998	Vice-president, Japan Region, International Plant Propagators' Society (IPPS)
1996-1997	Editorial Board Member of Horticultural Reviews, Vol.18, U.S.A.
1997-present	Special Senior Advisor on Biotechnology at Linyi Research Institute of Agricultural Sciences, Linyi, Shandong, China
1997-	Editorial Board Member of Thai Journal of Agricultural Science, supported by The Agricultural Society of Thailand.
1998-2005	Editorial Board Member of Plant Cell, Tissue and Organ Culture
2000-	Editorial Board Member of The International Journal of Agricultural and Biosystems Engineering
2001-	International Advisory Editors of Indonesian Journal of Agricultural Sciences
2001-present	National Correspondent, The Asia and Pacific Association of Plant Tissue Culture and Agribiotechnology
2001-present	Long-term Advisor, Biotechnology, Kunming Research Institute of Environmental Sciences, Kunming, Yunnan, China
2001-present	Member of International Editorial Board of Propagation of Ornamental Plants, Bulgaria.

Selected International Professional Activities II
(Symposium/Conference/Congress/Workshop Organization)

- 1978 Organizing Committee Member, International ISHS Symposium on Potential Productivity in Protected Cultivation, Kyoto, Japan
- 1985 Program Committee Member, International Symposium on Thermal Application of Solar Energy, Hakone, Kanagawa, Japan
- 1988 Secretary General, International ISHS Symposium on High Technology in Protected Cultivation, Hamamatsu, Shizuoka, Japan
- 1989 Organizing Committee Member, ICES Solar World Congress 1989 Kobe, Hyogo, Japan
- 1991 Convener of Sessions-in-Depth on Robotics in Tissue Culture, 1991 World Congress on Cell and Tissue Culture, Anaheim, California, USA
- 1992 Secretary General, International ISHS Symposium on Transplant Production Systems, Yokohama, Kanagawa, Japan
- 1992 Organizing Committee Member, International Symposium on Disturbed Climate, Vegetation and Foods, Society of Agricultural Meteorology of Japan, Tsukuba, Ibaraki, Japan
- 1992-1995 Scientific Advisory Board Member, Annual Meeting of the Tissue Culture Association, USA (renamed as the Society for In Vitro Biology since 1995)
- 1993 Advisory Committee Member, The 1st Asia-Pacific Conference on Plant Cell & Tissue Culture, Taejon, Korea
- 1994 Convener, Session on Large Scale Production at the 8th International Congress of Plant Tissue Culture, Firenze, Italy
- 1994 Organizing Committee Member, The 24th International Horticultural Congress, Kyoto, Japan, August 21-27, 1994
- 1994 Convener, Symposium on Environmental Effects and Their Control in Plant Tissue Culture, The 24th International Horticultural Congress, Kyoto, Japan, August 21-17, 1994
- 1996 Vice Chairperson, Intentional ISHS Symposium on Plant Production in Closed Systems, Narita, Chiba, Japan, August 26-29, 1996
- 1996 Organizing Committee Member, International Symposium on Food Production and Environmental Improvement under Global Climate Change, Society of Agricultural Meteorology of Japan, Ube, Yamaguchi, Japan, July 31- august 2, 1996
- 1996 Scientific Committee Member, International Symposium on Water Quality and Quantity in Greenhouse Agriculture, Tenerife, Spain, November 5-8, 1996
- 1996 Scientific Advisor, International ISHS Symposium on Growing Media and Hydroponics, Windsor, Ontario, Canada, May 16-19, 1997
- 1997 Co-Chairman of National Organizing Committee, IFAC/CIGR Workshop on AI (Artificial Intelligence) in Agriculture, Makuhari, Chiba, Japan, April 24-16, 1998
- 1997 Session Co-chair, Session: Artificial Lighting for Plants, The Third International Conference on Life Support and Biosphere Science, Lake Buena Vista, Florida, USA, January 11-15, 1998
- 1998 International Scientific Member of ISHS Symposium on Models for Plant Growth and Control of the Shoot and Root Environments in Greenhouses, Ramat Gan, Israel, February 21-26, 1999
- 1998 Chairman of Publicity Committee, and Member of Organizing Committee, The XIV Memorial CIGR World Congress, 2000, Tsukuba, Ibaraki, Japan
- 1999 Chairperson of National Committee, International Symposium on Transplant

- Production in Closed Systems for Solving the Global Issues on Environmental Conservation, Food, Resources and Energy, Chiba University, Chiba, Japan
- 1999 Organizing Committee Member, International ISHS Symposium on Artificial Lighting in Horticultural Production, Quebec, Canada, November 7-9, 2000
- 1999 Organizing Committee Member, Twelfth Symposium of the International Society for Tropical Root Crops (ISTRC 2000), Tsukuba, Ibaraki, Japan
- 2000 Program Committee Member, Third International Workshop on Plant Biotechnology, Hanoi, Vietnam, July 19-25, 2000.
- 2000 International Organizing Committee Member, Second International Conference Different Disordered-Systems, Allahabad, India, 1-3 December 2000.
- 2000 Organizing Committee Member, International Symposium on Design and Environmental Control of Tropical and Subtropical Greenhouses, Taichung, Taiwan, April 15-18, 2001
- 2001 Program Committee Member, The 3rd International Wood Biotechnology Symposium (IBBS), March 15-17, 2001, Narita, Chiba, Japan
- 2002 International Scientific Committee, First International Symposium on 'Liquid Systems for *in vitro* Mass Propagation of Plants', Agricultural University of Norway, Oslo, May 29-June 1, 2002
- 2003 Scientific Committee member, ISHS Symposium on Sustainable Greenhouse Systems held in Leuven, Belgium during September 12-17, 2004
- 2004 Members of International Scientific Committee and Editorial Board, ISHS Symposium on Artificial Lighting in Horticulture, held during June 21-24, 2005 in Norway
- 2005 Member of International Advisory Committee, 27th International Horticultural Congress & Exhibition held during August 13-19 in Seoul, Korea in 2006.
- 2006 Member of 5th IPPS Symposium on Propagation of Ornamental plants, September 5-8, 2007, Hungary
- 2007 Member of International Board. 6th International Symposium on *in vitro* culture and horticultural breeding, August 25-29, 2008, Brisbane, Australia

Notes: ISHS: International Society for Horticultural Science
 ISES: International Solar Energy Society
 IFAC: International Federation of Automatic Control
 CIGR: International Commission of Agricultural Engineering

Selected International Professional Activities III (Universities)

2004-2006 External Assessor, University Putra Malaysia

Selected National Professional Activities I (Academic Societies)

1979-1983 Treasurer, The Society of Agricultural Meteorology of Japan

1981-2001 Member, Board of Directors, The Society of Agricultural Meteorology of Japan

1983-1984 Editorial Committee Member, Journal of Japan Solar Energy Society

1985-1989 Associate Editor, Journal of Agricultural Meteorology

1987-1991 Director of General Affairs, Japanese Society of Environment Control in Biology

1986-1988 Vice-Chairman, Research Group of Information Systems, The Society of Agricultural Meteorology of Japan

1988-1992 Chairman, Research Group of Information Systems, The Society of Agricultural Meteorology of Japan

1988-1998 Member, Board of Directors, Japan Solar Energy Society

1991-1998 Member, Board of Directors, Japanese Society of High Technology in Agriculture

1991-2005	Member, Board of Directors, Japan Society for Controlled Ecological Life Support Systems (CELSS).
1992-1997	Regional Chief Director, Kanto Region, The Society of Agricultural Meteorology of Japan
1992-1996	Regional Chief Director, Kanto Region, Japanese Society of High Technology in Agriculture
1993-1995	Member, Board of Directors, Tropical Agriculture Research Association of Japan
1995-1998	Chief Director, Japanese Society of Environment Control in Biology
1995-2003	Member, Board of Directors, Japanese Commission of Agricultural Engineers
1998-2000	Vice president, Japanese Society of High Technology in Agriculture
2001-2005	Member of Advisory Board, Journal of Agricultural Meteorology, Japan
1999-2005	Vice-President, Japanese Society of Environment Control in Biology
1999-2000	Director, The Society of Agricultural Meteorology of Japan
1999-present	Board Member, The Agricultural Academy of Japan
2000-2003	President, Japanese Society of High Technology in Agriculture
2003-2006	Special Advisor, Japanese Society of High Technology in Agriculture
2004-present	Director, The Foundation of Agricultural Sciences of Japan
2006-present	Honorary member, Japanese Society of High Technology in Agriculture
2006-present	Associate Member, The Science Council of Japan
2007-present	Member, Editorial Board of Advances in natural Sciences, Vietnamese Academy of Science and Technology.

Selected National Professional Activities II (Adjunct Lecturers at universities)

1982-1993	Yamagata University, Faculty of Agriculture
1986, 1992	Mie University, Faculty of Agriculture
1989-1993	Sakushin Gakuin University, Department of Business Administration
1990	Tohoku University, Faculty of Agriculture
1990-1992	Ibaraki University, Faculty of Agriculture
1991-1992	Iwate University, Faculty of Agriculture
1991-1996	Tokai University, School of High-Technology for Human Welfare
1992-1995	The University of Tokyo, Faculty of Agriculture
1992-1997	Saga University, Faculty of Agriculture
1995	University of Osaka Prefecture, Faculty of Agriculture
1995	Ehime University, Faculty of Agriculture
1995-1999	Shizuoka University, Faculty of Agriculture
1996-1999	Tokyo University of Agriculture, Faculty of Agriculture

Selected National Professional Activities III (Universities)

2004-present	Chairperson, External Assessment Committee of Miyazaki University
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Ph.D. Degree Advising as a Chief Supervisor

1994	Chieri Kubota, Growth Regulation in Plant Micropropagation by Controlling In-Vitro Physical Environment
1994	Jenny Aitken-Christie, Effects of CO ₂ Enrichment on <i>Pinus radiata</i> Shoot Growth and Nutrition <i>in vitro</i>
1994	Takehiko Hoshi, Fundamental Research on Production Support System in Plant Factory
1995	Yoshie Miyashita, Growth and Morphology of Potato plantlets in

- vitro as Affected by Light Quality, and Size and Nodal Position of the plantlet
- 1995 Chalernpol Kirdmanee, Environmental Control and Its Effect in *Eucalyptus* Micropropagation under Photoautotrophic Conditions
- 1995 Chan Suk Yan, Photosynthesis, Transpiration and Growth of Plantlets *in vitro* under Photoautotrophic Conditions as Affected by Medium Composition
- 1997 Genhua Niu, Simulation of the Effects of Physical Environmental Factors on the Growth of *In Vitro* Plantlets in Micropropagation
- 1997 Yukiko Seko, Effects of the Physical Environment and Sucrose Concentration in the Medium on the Growth and Development of Rice and Turfgrass Regenerants Grown *In Vitro*
- 1998 Toshio Shibuya, Agrometeorological Study on Mass and Energy Transfer in Plug Seedling Communities
- 1998 Joonwook Heo, Development of a Micropropagation System with Forced Ventilation and Its Application for Enhancing the Photoautotrophic Growth of Sweetpotato Plug Plantlets.
- 2001 Katsumi Ohyama, Analyses of Energy and Mass Balance of a Closed-type Transplant Production System and its application
- 2001 Quynh Thi Nguyen, Effects of Environmental Factors on the Growth of Coffee (*Coffea arabusta*) and Other Plant Species Cultured In Vitro.
- 2001 Ahmed Mahmoud Abdel-Ghany, Energy and Water Vapor Transfer in a Greenhouse With Selective Radiation Filtering Roof under Hot and Sunny Climates.
- 2002 Yee Hin Lok, Sweetpotato Propagule Production Rate and Electric Energy Consumption in Closed Transplant Production Systems as Affected by Planting Density and Propagation Method
- 2003 Katsumi Ohyama, Analysis of Energy and Mass Balance of a Closed Transplant Production System and its Application.
- 2004 Masao Nishimura, High Quality Transplant Production with Minimum Resources in a Closed System.
- 2005 Xiao Yulan, Effects of Environmental factors on growth of plantlets in a naturally ventilated vessel and development and application of a photoautotrophic micropropagation system using forcedly ventilated vessels.

Invited/Keynote Lectures at International Meetings

- 1985 Solar and water energy for horticultural uses in Japan, FFTC Symposium, Taiwan
- 1987 Intelligent Information Systems for Production Management in Agriculture and Horticulture at the International Conference and Exhibition on Artificial Intelligence, Osaka, Japan, October 28-30, 1987
- 1988 High Technology in Protected Cultivation at the Special Lectures on Horticulture in High Technology Era, Tokyo, May 10-11, 1988, jointed with International ISHS Symposium on High Technology in Protected Cultivation, Hamamatsu, Shizuoka, Japan
- 1988 Autotrophic (Sugar free) Tissue Culture for Promoting the Growth of Plantlets *in vitro* and for Reducing Biological Contamination at International Symposium on Application of Biotechnology for Small Industries Development in Developing Countries, Bangkok, Thailand, 21-24 September, 1988
- 1989 Environmental Effects in Photoautotrophic Culture, La Culture in Vitro: Une Technologie au Service de la Biologie Vegetale (Colloque Sur La Culture in Vitro), Universite Laval, Quebec, Canada, March 16, 1989
- 1990 Environmental Control and Automation in Micropropagation at the 4th Toyota Conference (Automation in Biotechnology), Aichi, Japan, 21-14 October, 1990
- 1991 Some robotic micropropagation systems recently developed in Japan, 1991 World

- 1991 Congress on Cell and Tissue Culture, Anaheim, CA, USA, June 16-20, 1991
Environmental Control in Plant Tissue Culture and Its Application for Micropropagation at the IFAC/ISHS Workshop on Mathematical and Control Applications in Agriculture and Horticulture, Matsuyama, Ehime, Japan, 30 September – 3 October, 1993
- 1992 International Symposium on Transplant Production Systems, Yokohama, Japan. 21-26 July, 1992
- 1992 Environmental Effect and Environmental Control in Plant Tissue Culture at the Workshop on Influence of Physical Microenvironment on Plant Growth in Vitro, 1992 World Congress on Cell and Tissue Culture, Arlington, Washington D.C. USA
- 1993 Environmental Control for Autotrophic Micropropagation at the Southeast Asian Regional Workshop on Propagation Techniques for Commercial Crops of the Tropics, Ho Chi Minh, Vietnam, 7-12 February, 1993
- 1993 Environmental Control for Production of Quality Plantlets In Vitro at Low Costs on a Large Scale at the 1st Asia-Pacific Conference on Plant Cell & Tissue Culture, Taejon, Korea, 5-9 September, 1993
- 1994 Use of Diffusive Optical Fibers for Lighting at the International Lighting in Controlled Environments Workshop, Madison, Wisconsin, USA, March 27-30, 1994
- 1994 Environmental control for large scale production of in vitro plants, VII International Congress of Plant Tissue and Cell Culture, Firenze, Italy, June 12-17, 1994
- 1994 XXIVth International Horticultural Congress (Symposium on Environmental Effects and Their Control in Plant Tissue Culture), Kyoto, Japan, 21-17 August 1994
- 1995 Effects of Physical Environments on the Growth of Plantlets in Micropropagation at the Workshop on Plant Growth and Differentiation and Training Course, Ho Chi Minh, Vietnam, October 25, 1995
- 1995 Environmental Control of Large Scale Production of Plants through *in vitro* Techniques at the 2nd International Plant Tissue Culture Conference, Dhaka, Bangladesh, December 10-12, 1995
- 1996 International Symposium on Plant Production in Closed Ecosystems –Automation, Culture and Environment -, Narita, Japan, 26-29 August, 1996
- 1996 Benefits of Physical and/or Aerial Environment Control in Micropropagation, Third Asia-Pacific Conference on Agricultural Biotechnology: Issues and Choices, Hua Hin, Thailand, November 10-15, 1996
- 1997 Photosynthetic and transpirational characteristics of plants in closed systems with artificial lighting. International Meeting on Influence of climatic characteristics upon behavior of radioactive elements, Aomori, Japan, October 14-16, 1997
- 1997 Towards efficient vegetative propagation and transplant production of sweetpotato (*Ipomoea batatas* L.) under artificial light in closed ecosystems. International Workshop on Sweetpotato Production System Toward the 21st Century, Miyakonojo, Miyazaki, Japan, December 9-10, 1997
- 1998 Quality Improvement of Seedlings and Plantlets by Environmental Control. The Third Asian Crop Science Conference, Taichung, Taiwan, April 27-May 2, 1998.
- 1998 Environmental Control in Photoautotrophic Micropropagation. The IX International Congress on Plant Tissue and Cell Culture, Jerusalem, Israel, June 14-19, 1998
- 1998 The Tokyo International Symposium Forum on Conservation and Sustainable Use of Tropical Bioresources, Tokyo, Japan, November 9-10, 1998
- 1999 Quality Biomass Production via Photoautotrophic Micropropagation, International ISHS Symposium on Quality Management in Micropropagation, Cork, Ireland, August 24-27, 1999
- 2000 Necessity and concept of the closed transplant production system, International Symposium on Transplant Production Systems for Solving the Global Issues on Environmental Conservation, Food,

- Resources and Energy, Chiba University, February 28-March 2, 2000
- 2000 Perspectives of bioengineering and bioindustry for saving the Earth in the 21st Century, Fourth Symposium on Agricultural Sciences and Biochemical Engineering 2000, Chiba University, Japan, March 5, 2000
- 2000 Necessity of closed-type micropropagation systems using open-type culture vessels for resource saving and environmental conservation, Third International Workshop on Plant Biotechnology, Hanoi, Vietnam, July 19-25, 2000
- 2000 Closed transplant production systems and their application, International Symposium on Trend of Plant Tissue Culture and Biotechnology for Plant Production and Crop Improvement, Bangkok, Thailand, 3-5 October, 2000
- 2000 Transplant production in closed systems with artificial Lighting, 4th International Symposium on Artificial Lighting, 7-9 November, 2000, Quebec, Canada
- 2000 Closed transplant production systems with artificial lighting for quality control, resource saving and environmental conservation, The XIV Memorial CIGR World Congress, 2000, Tsukuba, Ibaraki, Japan, 28 November –1 December, 2000
- 2001 A closed type transplant production system, The 3rd International Wood Biotechnology Workshop, March 15-17, 2001, Narita, Chiba, Japan
- 2002 A scaled-up photoautotrophic culture system for cotyledonary-stage somatic embryos - Photosynthetic ability, growth and morphology of *Coffea arabusta* -, First International Symposium on ‘Liquid Systems for *in vitro* Mass Propagation of Plants’, Agricultural University of Norway, Oslo, May 29-June 1, 2002
- 2002 Closed systems with Lamps for Commercial Production of Transplants Using Minimal Resources, IIVth International Horticultural Congress, Toronto, Canada
- 2004 A commercialized photoautotrophic micropropagation system using large vessels with forced ventilation: plant growth and economic benefits. 5th IVCHB Symposium – Biotechnology, as theory and practice in horticulture, September 12 – 17, 2004, Debrecen, Hungary.
- 2004 Closed systems for production of transplants for solving global problems on Environment, food and natural resources. Agriculture Congress – Innovations towards modernized agriculture, October 4 –7, 2004, Melaka, Malaysia
- 2004 Commercialized closed systems with artificial lighting for high quality plant production at low costs. CIGR Congress, Beijing, China, October 11-14, 2004
- 2005 Closed systems with lamps for commercial production of high quality plants at low costs using minimal resources, International Symposium on Future Development of Agricultural Biotechnology Park, Pingtung, Taiwan, Nov. 18-20, 2004.
- 2005 Commercialized closed systems with artificial lighting for plant production, Vth ISHS Symposium on Artificial Lighting in Horticulture, held in Lillehammer, Norway, during June 21-24, 2005.
- 2007 Propagation, grafting, and transplant production in closed systems with artificial lighting for commercialization in Japan, IPPS conference on propagation of ornamental plants, Sofia, Bulgaria, September 2007

Selected Invited/Keynote Lectures at Meetings Overseas

- 1987 Environmental Control for Greenhouse Crop Production, the Special Lectures at Beijing Agricultural University, Beijing, China
- 1988 Autotrophic micropropagation for masspropagation of *in vitro* plantlets at the Plant Biotechnology Seminar on Applications and Commercial Opportunities for Agro-development in Indonesia, Jakarta, Indonesia, 12-13 December, 1988
- 1989 Autotrophic Micropropagation - A Novel Method at the 40th Annual Meeting of Tissue Culture Association, Orlando, Florida, USA
- 1991 Considerations for Automation of Micropropagation Systems at the

- Automated Agriculture for the 21st Century Symposium organized by American Society of Agricultural Engineers, Chicago, USA, 16-17 December, 1991
- 1991 Environmental Control and Automation in Micropropagation, the 9th Biennial Conference of the New Zealand Branch of the International Association for Plant Tissue Culture, Rotorua, New Zealand, 21-23 February, 1991
- 1992 Commercial Transplant Production Practices and Recent Research in Japan at the Colloquium on "State of the Art" Commercial Transplant Production Practices, the 89th Annual Meeting of the American Society for Horticultural Science, Hawaii, USA
- 1993 1993 Meeting of the Tissue Culture Association, June 5-9, 1993, San Diego, USA
- 1993 Environmental Control and Automation in Plant Tissue Culture at the 11th Australian Biotechnology Conference, Perth, Australia, 20-24 September, 1993
- 1994 Methods and systems for automatic environmental control, 1994 Congress on Cell and Tissue Culture, Research Triangle Park, NC, USA, June 4-7, 1994
- 1994 'Environmental Measurement and Control in Plant Production', Special Lectures at the Institute of Agrometeorology, Chinese Academy of Agricultural Sciences, November, 1994, Beijing, China
- 1995 'Photoautotrophic Growth' in MSc and Postgraduate Courses in Plant Cell and Tissue Culture, Department of Botany, University of Colombo, Sri Lanka Aug.3-5, 1995
- 1996 Special Lectures on Transplant Production and Photoautotrophic Micropropagation at Department of Science & Technology Committee of Kunming, and Biotechnology Research Institute of Yunnan Academy of Agricultural Science, Yunnan, China, March 26 and 27, 1996
- 1996 Environmental Control and Its Effects in Transplant Production under Artificial Light at the Symposium of Annual Fall Meeting of Korean Society for Horticultural Science, Kyungpook University, Korea, October 25-26, 1996
- 1997 Special Lectures on Transplant Production and Photoautotrophic Micropropagation at Department of Science & Technology Committee of Kunming, and Biotechnology Research Institute of Yunnan Academy of Agricultural Science, Yunnan, China, August 25-30, 1997
- 1997 Special lectures on sweetpotato micropropagation at Linyi Research Institute of Agricultural Sciences, Linyi, Shandong, China, September 3-4, 1997
- 1999 Transplant Production in Closed Systems with Artificial Lighting for Solving Global Issues in Environment Conservation, Food, Resources and Energy, ACESYS III Forum –From Protected Cultivation to Phytomation-, Rutgers University, July 23, 1999

Selected Seminars Overseas

- 1989 Seminar organized by Prof. Sagawa at Department of Horticulture, University of Hawaii, USA, March 29.
- 1989 Seminar organized by Dr. Sharon Kurts, Twyford International Inc., CA. USA, April 4.
- 1989 Seminar organized by Dr. David Stuart, Plant Genetics Inc., CA, USA, April 5.
- 1989 Photoautotrophic propagation, Department of Pomology, University of California, Davis, USA, April 7.
- 1989 Seminar organized by Dr. Wulster, Dept. of Bio and Ag, Engng, Rutgers University, NJ. USA, May 3.
- 1989 Seminar Organized by Dr. Paul Walker, Dept. of Ag. Engng., Pennsylvania State University, Pa, USA, May 30.
- 1989 Gave a talk at a workshop, organized by Prof. Mary Ann I. Smith, The 40th American Tissue Culture Meeting, USA., June 13.

- 1989 Had a seminar organized by Dr. R. Hartman, Hartman Laboratories, Sebring, FL, USA, June 16.
- 1989 Controlled environment for plant tissue culture, organized by Dr. Pamela Weather, Room 328, Salisbury Lab., Department of Biology and Biotechnology, Worcester Polytechnic Institute, MA, USA, July 13.
- 1989 Japanese Plant Biotechnology/Photoautotrophic Tissue Culture, organized by Prof. Roy Young, McAdams Hall, Clemson, Clemson University, SC, USA, July 27.
- 1989 Autotrophic (Sugar-free) micropropagation for a significant reduction of production costs, organized by Prof. Royal D. Heins, Room 279, PSA, Michigan University, MI, USA, September 11.
- 1989 Photoautotrophic micropropagation of explants, Room 473, organized by Prof. T. Tibbitts, Plant Science Building, University of Wisconsin, Madison, Wisconsin, USA, September 14.
- 1989 Photoautotrophic micropropagation and automation of tissue culture, organized by Prof. J. Janick, Horticulture Room 117, Department of Agricultural Engineering & Department of Horticulture, Purdue University, USA, September 18.
- 1994 Environmental control and its application in micropropagation, Ornamental plants Research Institute, Guangdong Agricultural Science Academy, Guangdong, China, October 28.

Overseas visits by country

Country	Year	Times	Country	Year	Times
China	1987, 1994, 1996, 1997, 1998, 1998, 1999, 2001, 2001, 2002, 2003, 2004, 2007, 2007, 2007, 2008, 2008, 2008, 2009, 2009	20	USA	1983, 1987, 1989, 1990, 1991, 1991, 1991, 1991, 1993, 1994, 1995, 1998, 1999, 2006, 2009	15
Thailand	1986, 1987, 1988, 1988, 1990, 1990, 1990, 1991, 1992, 1996, 2004	11	The Netherlands	1974-75, 1979, 1985, 1987, 1990, 1991, 1994, 1999,	8
Vietnam	1993, 1995, 1998, 1999, 2000, 2000, 2009	7	Belgium	1975, 1978, 1987, 1991	4
Taiwan	1984, 1998, 2001, 2004, 2009	5	England	1975, 1979, 1994	3
Indonesia	1988, 1995, 1995, 1995	4	France	1975, 1987, 1991, 1994, 1997	5
Bangladesh	1995	1	Italy	1990, 1994,	2
Malaysia	1995, 2004	2	Germany	1975, 2002	2
Korea	1993, 1996, 1999	3	Denmark	1991, 1994,	2
Sri Lanka	1995	1	Norway	2002, 2005	2
Singapore	1995	1	Sweden		
New Zealand	1991	1	Spain	1997	1
Australia	1986, 1993	2	Ireland	1999	1
Israel	1998	1	Luxemburg	1987	1
			Canada	1989, 2000, 2002, 2009	4
			Hungary	2004	1
			Bulgaria	2007	1
Subtotal		59			52

Overseas visits by year

	Year	Duration	City and/or Country	Remarks
1	1975-1976	Nov. 2, 1975 – May 2, 1976	The Netherlands, England, France, Belgium, Germany	
2	1978	Jan. 28 – Mar. 11	Belgium, England	JSPS
3	1979	June 3 – July 2	England, The Netherlands	JSPS
4	1983	Aug. 10 – Sep. 3	Ohio, USA	ISHS Symposium etc.
5	1984	Sep.3 – 12	Taichun, Taiwan	FFTC Symposium
6	1985	May 9 – May 27	Wageningen, The Netherlands	ISHS Symposium
7	1986	Mar. 27 – Apr. 4	Bangkok, Kohn Kaen, Thailand	JSPS
8	1986	Aug. 23 – Sep. 16	Australia	ISHS Symposium
9	1987	Mar. 11 – Mar. 22	The Netherlands, USA	
10	1987	Apr. 8 – Apr. 17	Bangkok, Thailand	JSPS

11	1987	Aug. 7 – Aug. 22	Belgium, France, Luxemburg	
12	1987	Sept. 12 – Sept. 21	New Jersey, USA	
13	1987	Oct. 31 – Nov. 12	Beijing, China	
14	1988	Sept. 20 – Sept. 25	Bangkok, Thailand	
15	1988	Dec. 10 – Dec. 18	Jakarta, Indonesia, Bangkok, Thailand	
16	1989	Mar. 14 – Mar. 22	Quebec, Canada	
17	1989	Mar. 25 – Sep. 25	Hawaii, Los Angels, Ithaca, Wooster, New Jersey, Orland, USA	
18	1990	Mar. 24 – Apr. 1	Chaing Mai, Thailand	
19	1990	June 23 – July 2	Amsterdam, Rotterdam, The Netherlands	
20	1990	Sept.20-Sept.30	Bangkok, Thailand	
21	1990	Aug. 24 – Sept. 3	Firenze, Italy	IHC
22	1990	Nov. 3 – Nov. 9	Tuscon, AR, USA	
23	1991	Jan. 19 – Feb. 2	Copenhagen, Denmark, Brussels, Belgium, Paris, France, Den Haag, The Netherlands	Tour and ISHS symposium
24	1991	Feb. 19 = Feb. 26	Rotorua, New Zealand	IAPTC New Zealand
25	1991	Nov. 14 – Nov. 21	Thailand	
26	1991	June 14 - June 22	Chicago, USA	
27	1991	Dec. 14 – Dec. 22	Anaheim, USA	
28	1992	June 20 – June. 26	Washington D.C., USA	American Tissue Culture Association
29	1992	July 30 – Aug. 8	Hawaii, USA	ASHS
30	1992	Nov. 9 – 15	Chiang Mai, Bangkok, Thailand	
31	1993	Feb. 2 – Feb. 15	Dalat, Ho Chi Minh, Vietnam	
32	1993	June 5 – June 9	San Diego, USA	American Tissue Culture Association
33	1993	Sept 4 – Sept. 10	Taejon, Korea	
34	1993	Sept. 19- Sept. 25	Perth, Australia	
35	1994	Jan. 17- Jan. 29	London, Copenhagen, Paris, Noordwijkerhout, The Netherlands	
36	1994	Mar. 24 – Apr. 1	Madison, Wisconsin, USA	
37	1994	June 10 – June 10	Firenze, Italy	9 th IAPTC
38	1994	Oct. 26-Nov. 6	Beijing, Guangdong, China	
39	1995	Jan. 16-Jan. 24	Jakarta, Indonesia, Kuala Lumpur, Malaysia	Forest Research Institute of Malaysia
40	1995	Feb. 20 – Feb. 24	New Jersey, USA	
41	1995	Aug.2 – Aug.7	Sri Lanka, Singapore	
42	1995	Aug.8 – Aug.10	Jakarta, Indonesia	
43	1995	Oct. 22 – Nov. 3	Ho Chi Ming, Vietnam, Hong Kong	
44	1995	Nov. 3 – Nov. 7	Jakarta, Indonesia	
45	1995	Dec. 9 – Dec. 14	Dhaka, Bangladesh	

46	1996	Mar. 23 – Mar. 30	Kunming, China	
47	1996	Oct. 22 – Oct. 27	Kyungpook, Korea	
48	1996	Nov. 9 – Nov. 17	Hua Hing, Thailand	
49	1997	Aug. 23 – Sep. 9	Kunming, Shangdong, China	
50	1997	Oct. 30 – Nov. 8	The Netherlands, Belgium, Spain, France	
51	1998	Jan. 10 – Jan. 16	Florida, USA	
52	1998	Feb. 28 - Mar. 8	Ho Chi Minh, Vietnam	
53	1998	Apr. 27 – May 6	Taichung, Taiwan	
54	1998	June 13- June 19	Jerusalem, Israel	IAPTC
55	1998	July 4 - July 9	Nanjing, Zhenjiang, Beijing, China	
56	1998	Oct. 30 – Nov. 11	Linyi, Shandong, Beijing, China	
57	1999	Jan. 4 – Jan. 10	Ho Chi Ming, Vietnam	
58	1999	Mar. 17 – Mar. 22	Kunming, Shangdong, China	
59	1999	July 22 – July 25	New Jersey, USA	
60	1999	Aug. 24 - Aug. 29	Cork, Ireland	ISHS Symposium
61	1999	Oct. 9 – Oct.13	Kunming, China	
62	1999	Nov. 21 – Nov. 23	Korea	
63	2000	Jan. 28 - Feb. 2	Ho Chi Ming, Can Tho, Vietnam	
64	2000	July 19 – July 23	Hanoi, Vietnam	
65	2000	Oct.1 – Oct. 6	Bangkok, Thailand	
66	2000	Nov. 7 – Nov.11	Quebec, Canada	ISHS Symposium
67	2001	Apr. 14 – Apr. 18	Taiwan	ISHS Symposium
68	2001	Aug. 8 –Aug.15	Kunming, China	
69	2001	Oct. 28– Nov. 1	Beijing, China	
70	2002	May 28 – June 2	Oslo, Norway	ISHS Symposium
71	2002	Aug. 8 – Aug. 19	Toronto, Canada	IHC
72	2002	Sept. 25 – Sept. 28	Hanover, Germany	
73	2002	Sept. 28-Oct. 1	China	
74	2003	Dec. 21 – Dec. 24	Chongging, China	
75	2004	Sept. 12 – Sept. 17	Debrecen, Hungary	IVCHB Symposium
76	2004	Oct. 3 – Oct. 8	Melaka, Kuala Lumpur, Malaysia	
77	2004	Oct. 10 – Oct. 14	Beijing, China	CIGR
78	2004	Nov. 17-Nov. 20	Pingtung, Taiwan	
79	2004	Dec. 28- Dec. 31	Bangkok, Thailand	
80	2005	June 21-24	Lillehammer, Norway	ISHS Symposium
81	2006	Oct. 22-27	New York, Boston, USA	Academic visits to universities
82	2007	Mar. 27-31	Shanghai, China	Shainghai Jiao Tong Univ, Fudan Univ., Delta Institute of Tsinghua Univ.
83	2007	August 3-7	Beijing, China	China Agr. Univ.
84	2007	August 23-25	Beijing, China	Tsinghua Univ., Peking Univ.
85	2007	September	Sofia, Bulgaria	IPPS Conference
86	2008	May 19-23	Beijing and other places,	Academic visit. Lectures at

			China	Metropolitan University and China Agricultural University
87	2008	October 15-19	Beijing, China	International Forum on Bio-Environmental and Bio-energy Engineering, China Agricultural University
88	2008	December 15-19	Sandong Province China	Academic visit to greenhouse area
89	2009	January 5-10	Ho Chi Minh, Dalat, Vietnam	Lecture and academic visit
90	2009	April 19-28	Sangdon, Beijing, Fujian, China	
		June 4 –June 20	Charotte, Charleston, , Tuscon, Quebec, Canada	
91	2009	July 28-August 17	Beijing, China	
92	2009	October	Beijing, China	
93	2009	October	Taiwan	

ISHS: International Society for Horticultural Science

HIC: International Horticultural Congress

CIGR: International Society of Agricultural Engineering

IAPTC: International Association of Plant Tissue Culture

Names of Journal in which paper(s) were appeared (Number in parenthesis is the number of papers in English appeared in the journal. The total number of papers is 173 including 46 papers in Acta Horticulturae*. (as of December. 31, 2006)

	Journal Name		Journal Name
1	Plant Cell, Tissue and Organ Culture (11)	2	HortScience (13)
3	In Vitro Cell. Dev. Biol. (10)	4	Scientia Horticulturae (9)
5	Trans. of ASAE (5)	6	J. Japan. Soc. Hort. Sci. (4)
7	Annals of Botany (5)	8	J. Japan. Soc. Hort. Sci. (4)
9	HortTechnology (3)	10	Environment Control in Biology (11)
11	J. High Tech. in Agr. (3)	12	J. Agr. Eng. Res. (2)
13	Agric. Meteorol. (2)	14	Agric. Meteorol. (2)
15	Jap. J. Tropical Agr. (1)	16	Plant Science. (3)
17	J. Plant Biotech. (1)	18	J. Plant Physiology . (1)
19	J. of Plant Research(1)	20	J. Korean Soc. of Agr. Machinery . (1)
21	Advances in Natural Sciences (1)	22	Life Support & Biosphere Science . (1)
23	Crop Science (1)	24	Plant Tissue Culture Letters (1)
25	J. Amer. Soc. Hort. Sci. (1)	26	Biologia Plantarum (1)
27	Acta Horticulturae (42)*	28	Biosystems Engineering (3)
29	Environmental and Experimental Botany (2)	30	J. of Plant Physiology and Biochem. (1)
31	Propagation of Ornamental Plants (1)	32	J. of Renewable Energy (3)
33	Tropical Agriculture (1)	34	Energy Conversion and Management (2)
35	Renewable Energy(2)	33	J. Pnial Res. (1)
		Total	148

*Acta Horticulturae is the proceedings of ISHS Symposium, not a periodical journal. Papers in the proceedings are refereed by two reviewers.

Journal name in which paper(s) were appeared (Number in parenthesis is the number of papers in English appeared in the journal (as of December 31, 2006).

No.	Name of Journal	No. of Papers	Year Published
1	Transaction of American Society of Agricultural Engineers	5	1974, 1996, 1997, 1998, 2005
2	Agricultural Meteorology	2	1977, 1977,
3	Journal of Agricultural Engineering Research	2	1986, 1986
4	J. Japanese Society of Horticultural Science	4	1988, 1989, 1993, 1995
5	In Vitro Cellular Development Biology	10	1989, 1995, 1999, 1999, 1999, 2001, 2001, 2003, 2004, 2006
6	Plant Cell, Tissue and Organ Culture	11	1991, 1991, 1999, 1999, 1999, 2000, 2000, 2001, 2001, 2002,

			2005
7	HortScience	13	1992, 1994, 1998, 1998, 2000, 2000, 2001, 2001, 2001, 2004, 2005, 2005, 2005
8	Plant Tissue Culture Letters	1	1993
9	HortTechnology	3	1993, 2001, 2001
10	Environment Control in Biology	8	1995, 1998, 2001, 2005, 2005, 2006, 2006, 2006
11	Scientia Horticulturae	9	1995, 1995, 1995, 1995, 1996, 2002, 2006, 2006, 2006
12	J. Korean Society of Agricultural Machinery	1	1997
13	Life Support & Biosphere Science	1	1998
14	Plant Science	3	2000, 2005, 2006
15	Journal of Plant Physiology	1	2000
16	Annals of Botany	5	2000, 2000, 2002, 2002, 2006
17	Journal of Agricultural Meteorology	2	2001, 2001
18	Journal of High Technology in Agriculture	3	2001, 2002, 2002
19	Japanese Journal of Tropical Agriculture	1	2001
20	Journal of Plant Biotechnology	1	2001
21	Journal of Plant Research	1	2001
22	Advances in Natural Sciences	1	2001
23	Crop Science	1	2002
24	J. Amer. Society Horticultural Science	1	2002
25	Biologia Plantarum	1	2003
26	Tropical Agriculture	1	2004
27	Journal of Renewable Energy	3	2005, 2006, 2006
28	Propagation of Ornamental Plants	1	2005
29	Journal of Plant Physiology and Biochemistry	2	2005, 2005
30	Environmental and Experimental Botany	2	2005, 2006
31	Biosystems Engineering SE	4	2005, 2006, 2006, 2006
32	Energy Conversion and Management	2	2006, 2006
33	J. Pineal Res.	1	2006
34	Renewable Energy	2	2006, 2006
3	Total No. of Papers	110	

Proceedings

No.	Name of Proceedings	No. of Papers	Year Published
1	Acta Horticulturae	46	1978, 1980, 1984, 1885, 1985, 1985, 1988, 1988, 1988, 1988, 1992, 1992, 1992, 1992, 1992, 1992, 1994, 1995, 1995, 1995, 1995, 1995, 1995, 1995, 1995, 1996, 1996, 1996, 1996, 1996, 1996, 1996, 1996, 1997, 1998, 2000, 2000, 2000, 2002, 2002, 2002, 2004, 2005, 2006, 2006, 2006, 2006
2	Others	17	1985, 1987, 1987, 1988, 1989, 1990, 1991, 1995, 1995, 1995, 1995, 1999, 2005, 2004, 2005, 2005, 2005
	Total No. of Papers	63	