

Systems Analysis Group

■ 2009 Original Paper (Peer-reviewed)

	Title	Researchers	Journal
1	Evaluation of Global Warming Impacts for Different Levels of Stabilization as a Step toward Determination of the Long-term Stabilization Target	A. Hayashi, K. Akimoto, F. Sano, S. Mori, T. Tomoda	Climatic Change (In press)
2	Land-Use Traffic Model for Impact Assessment of Urban Policies on Carbon Dioxide Reduction and Sustainability	M. Kii, K. Akimoto	Journal of Japan Society of Energy and Resources (In press)
3	Study on the Sustainability of Demand-supply System of Bio-fuels in Asian Region	M. Kii, A. Maruyama, S. Kai	Infrastructure Planning Review, Vol.26, 341-346, March 2009
4	Strategic Visioning Model for Sustainable Urban Transport under the Depopulating Society	M. Kii, T. Suzuki, M. Tanishita, K. Doi	Japan Society of Civil Engineers Vol.65, No.3, August 2009
5	Public Support for Energy R & D	J. Oda	The 30th Anniversary of Institute of Applied Energy, "Oshima prize-winning paper", January 2009
6	Stability of International Climate Coalitions - A Comparison of Transfer Schemes	M. Nagashima, R. Dellink, E.van. Ierland, H-P. Weikard	Ecological Economics, Vol.68, Issue 5, pp.1476-1487, 2009.
7	An Evaluation of Energy Efficiency in Iron and Steel Sector	J. Oda, K. Akimoto	Journal of Japan Institute of Energy, Vol.88, 1009-1016, January 2009
8	Introduction of Subsidisation in Nascent Climate-friendly Learning Technologies and Evaluation of its Effectiveness	U. K. Rout, K. Akimoto, F. Sano, T. Tomoda	Energy Policy (In press)

■ 2009 Other Paper (e.g., Review, Comment)

	Title	Researchers	Journal
1	The Global Warming Aspects and Efforts toward Post-Kyoto Protocol	K. Akimoto	Newsletter 'INSTREAM', March 2009 Instrumentation & Process Control Engineers' Association
2	Technological Outlook toward Cool Earth 50 and Analysis of Mid-term Target Establishment	K. Tokushige, K. Akimoto	Environment Solution Technology, August 2009 (monthly journal by Japan Industrial Publishing CO., LTD.)
3	Mid-term Target against Global Warming and Nuclear Power	K. Akimoto	Energy for the Future, September 2009
4	Technology Innovation toward Low Carbon Society	K. Akimoto	Economic Trend, October 2009
5	Firm Actions with Eyes toward Scientific Facts	K. Akimoto	Gyousei, Cabinet Secretariat 'Comment on the Mid-Term Target for Global Warming Measures,' October 2009
6	Japan's Mid-term Target in the Post-Kyoto Framework	K. Akimoto	Environment Solution Technology, November 2009 (monthly journal by Japan Industrial Publishing CO., LTD.)
7	Six Alternatives for the Mid-term Target in Japan	K. Akimoto	Journal of Japan Environmental Management Association for Industry, November 2009
8	Simulation of Global Warming	K. Akimoto	Journal of The Institute of Electrical Engineers of Japan, December 2009

■ 2009 Oral Presentation (Domestic Conference)

	Title	Researchers	Forum
1	A Study on Spatial Distribution Structure of Cities and its Future Estimation	M. Kii, K. Akimoto	25th Conference on Energy, Economy, and Environment, January 29, 2009
2	Evaluating the benefits of subsidy procurement to component cluster global learning technologies with and without a climate stabilization in DNE21+ model.	Ullash Kumar Rout, K. Akimoto, F. Sano, T. Tomoda	25th Conference on Energy, Economy, and Environment, January 29, 2009
3	Evaluations of CO2 Emission Reduction on Target after 2013	K. Akimoto, F. Sano, J. Oda, T. Homma	25th Conference on Energy, Economy, and Environment, January 30, 2009
4	Putting Synergy or Trade-off Relationships among Climate Policies and Sustainable Development Policies	A. Hayashi, K. Akimoto, T. Homma, K. Tokushige, J. Oda, F. Sano, T. Tomoda	25th Conference on Energy, Economy, and Environment, January 30, 2009
5	Evaluation of Consumption-based CO2 Emissions Based on the Beneficial Pays Principle	T. Homma, K. Akimoto, T. Tomoda	25th Conference on Energy, Economy, and Environment, January 30, 2009
6	Evaluation of Energy Innovative Technologies for Ambitious CO2 Emission Reduction	F. Sano, K. Akimoto, J. Oda, T. Tomoda	25th Conference on Energy, Economy, and Environment, January 30, 2009

	Title	Researchers	Forum
7	An Analysis of Mitigation Measures and Effects of Scrap Availability in Iron & Steel Sector	J. Oda, K. Akimoto, F. Sano	25th Conference on Energy, Economy, and Environment, January 30, 2009
8	International Comparison on the Implementation of Global Warming Measures	K. Tokushige, K. Akimoto, J. Oda	25th Conference on Energy, Economy, and Environment, January 30, 2009
9	Assessment of Mitigation Measures Considering Social Barriers about Price and Behaviors	M. Nagashima, K. Akimoto, F. Sano, J. Oda	25th Conference on Energy, Economy, and Environment, January 30, 2009

■ 2009 Oral Presentation (International Conference)

	Title	Researchers	Forum
1	Toward deep emission cuts by the joint efforts of developed and developing countries through sectoral approach	K. Akimoto	Joint Dialogue on Future International Actions to Address Global Climate change, February 2009
2	The Sectoral Approach to Analyze Global Mitigation Potential	M. Nagashima	Workshop on mitigation potentials, comparability of efforts and sectoral approaches, March 23, 2009
3	The Sectoral Approach to Analyze Global Mitigation Potential	M. Nagashima	AWG-KP Workshop on issues relating to the scale of emission reductions to be achieved by Annex I parties, March 27, 2009
4	Estimates for GHG Mitigation Potentials and Costs by RITE	K. Akimoto	Workshop on estimating GHG mitigation potentials and costs for Annex I countries, May 28-29, 2009
5	Evaluation of CO2 emissions based on the consumption-based measurement under CO2 reduction scenarios of different reduction levels	T. Homma, K. Akimoto, T. Tomoda	Twelfth Annual Conference on Global Economic Analysis, June 10-12, 2009

■ 2009 Non-Journal Publication

	Title	Researchers	Forum
1	The Global Warming Aspects and Efforts toward Post-Kyoto Protocol	K. Akimoto	The 47th Kansai Economic Federation Seminar, February 5 2009
2	Mid-term Target; Model Analysis Suggestions	K. Akimoto	The 152th Nippon Keidanren Gusetthouse Forum, 'Mid-term Target, Post-Kyoto Protocol and Role of business toward the Effective Measures against Global Warming', February 25, 2009
3	Six Alternatives and Stances to be taken toward Post-Kyoto Protocol	K. Akimoto	Environment and Safety Board Seminar, Kansai Economic Federation, April 24, 2009
4	International Trend of Post-Kyoto Protocol and Japan's Mid-term Target	K. Akimoto	Environment Board, Toyama Employer's Association, May 20, 2009
5	Development and Challenges of Emission Reduction Technologies toward Low-Carbon Society	K. Akimoto	Reliability Forum, The Society of Materials Science, Japan, May 23 2009
6	Methodology on the Establishment of Low-carbon Strategic Scenario	K. Akimoto	Ritsumeikan University Seminar, June 18, 2009
7	Mid- and Long-term Strategies to Combat Global Warming	K. Akimoto	Conference on Energy in Chugoku Region and Promotion Policies against Global Warming, July 14, 2009
8	Mid- and Long-term Energy Supply and Demand Systems in Japan	K. Akimoto	The Institute of Electronics, Information and Communication Engineers TOKAI Symposium, September 10 2009
9	Study on the Mid-term Target of Japan; International fairness and Compliance with Long-term Target	K. Akimoto	Summer Wrokshop, Journal of Japan Society of Energy and Resources, September 24, 2009
10	Study on the Mid-term Target of Japan	K. Akimoto	Intellectual Café, Research Center for Advanced Science and Technology, the University of Tokyo, September 25, 2009
11	Sectoral GHG emission reduction in the World, Japan and Korea	F. Sano, K. Akimoto	Green Business Seminar for Korea-Japan Low-Carbon Green Growth, October 21, 2008
12	International Trend of Post-Kyoto Protocol and Japan's Mid-term Target	K. Akimoto	Takaoka Aluminium Meeting, October 23, 2009
13	The Current Situation and Countermeasures of Global Environmental Issues, Concentrating on Global Warming	K. Akimoto	The 50th Environmental Session, the Gnenral Insurance Association of Japan November 6, 2009
14	The Countermeasures against Global Warming and Prospects for the Railroad Industry	K. Akimoto	The 46th Cybernetics Symposium, Japan Railway Engineer's Association, November 12, 2009
15	Verification of 25% GHG Reduction-How Much CO2 Emission Could Be Reduced?	K. Akimoto, <i>et al.</i>	Energy Forum, December 28, 2009
16	The 46th "Day of Nuclear Power" Commemoration Symposium Green New Deal Age and Nuclear Power—Environmental, Economic Harmony and Role of Nuclear Power	K. Akimoto, <i>et al.</i>	Nuclear power culture, Japan Atomic Energy Relation Organization, December 2009,

Molecular Microbiology and Biotechnology Group

■ 2009 Original Paper

	Title	Researchers	Journal
1	Characterization of a new 2.4-kb plasmid of <i>Corynebacterium casei</i> and development of stable corynebacterial cloning vector.	Y. Tsuchida, S. Kimura, N. Suzuki, M. Inui and H. Yukawa.	Appl. Microbiol. Biotechnol. 81:1107–1115. 2009.
2	Involvement of the LuxR-type transcriptional regulator RamA in regulation of expression of the <i>gapA</i> gene, encoding glyceraldehyde-3-phosphate dehydrogenase of <i>Corynebacterium glutamicum</i> .	K. Toyoda, H. Teramoto, M. Inui and H. Yukawa.	J. Bacteriol. 191:968–977. 2009.
3	Identification of new secreted proteins and secretion of heterologous amylase by <i>C. glutamicum</i> .	N. Suzuki, K. Watanabe, N. Okibe, Y. Tsuchida, M. Inui and H. Yukawa.	Appl. Microbiol. Biotechnol. 82:491–500. 2009.
4	Scanning the <i>Corynebacterium glutamicum</i> R genome for high-efficiency secretion signal sequences.	K. Watanabe, Y. Tsuchida, N. Okibe, H. Teramoto, N. Suzuki, M. Inui and H. Yukawa.	Microbiology 155:741–750. 2009.
5	Regulation of <i>Corynebacterium glutamicum</i> heat shock response by the extracytoplasmic-function sigma factor SigH and transcriptional regulators HspR and HrcA.	S. Ehira, H. Teramoto, M. Inui and H. Yukawa.	J. Bacteriol. 191:2964–2972. 2009.
6	Molecular mechanism of SugR-mediated sugar-dependent expression of the <i>ldhA</i> gene encoding L-lactate dehydrogenase in <i>Corynebacterium glutamicum</i> .	K. Toyoda, H. Teramoto, M. Inui and H. Yukawa.	Appl. Microbiol. Biotechnol. 83:315–327. 2009.
7	Identification and functional analysis of the gene cluster for L-arabinose utilization in <i>Corynebacterium glutamicum</i> .	H. Kawaguchi, M. Sasaki, A.A. Vertès, M. Inui and H. Yukawa.	Appl. Environ. Microbiol. 75:3419–3429. 2009.
8	Regulation of expression of genes involved in quinate and shikimate utilization in <i>Corynebacterium glutamicum</i> .	H. Teramoto, M. Inui and H. Yukawa.	Appl. Environ. Microbiol. 75:3461–3468. 2009.
9	The <i>ldhA</i> gene, encoding fermentative L-lactate dehydrogenase of <i>Corynebacterium glutamicum</i> , is under the control of positive feedback regulation mediated by LldR.	K. Toyoda, H. Teramoto, M. Inui and H. Yukawa.	J. Bacteriol. 191:4251–4258. 2009.
10	Regulation of quinone oxidoreductase by the redox-sensing transcriptional regulator QorR in <i>Corynebacterium glutamicum</i> .	S. Ehira, H. Ogino, H. Teramoto, M. Inui and H. Yukawa.	J. Biol. Chem. 284:16736–16742. 2009.
11	Identification of a second β -glucoside phosphoenolpyruvate: carbohydrate phosphotransferase system in <i>Corynebacterium glutamicum</i> R.	Y. Tanaka, H. Teramoto, M. Inui and H. Yukawa.	Microbiology 155:3652–3660. 2009.
12	Engineering of pentose transport in <i>Corynebacterium glutamicum</i> to improve simultaneous utilization of mixed sugars.	M. Sasaki, T. Jojima, H. Kawaguchi, M. Inui and H. Yukawa.	Appl. Microbiol. Biotechnol. 85:105–115. 2009.
13	Isolation, evaluation and use of two strong, carbon source-inducible promoters from <i>Corynebacterium glutamicum</i> .	N. Okibe, N. Suzuki, M. Inui and H. Yukawa.	Lett. Appl. Microbiol. 50:173–180. 2010.
14	Sugar transporters in efficient utilization of mixed sugar substrates: current knowledge and outlook.	T. Jojima, C.A. Omumasaba, M. Inui and H. Yukawa.	Appl. Microbiol. Biotechnol. 85:471–480. 2010. (Mini-Review)
15	Xylitol production by recombinant <i>Corynebacterium glutamicum</i> under oxygen deprivation.	M. Sasaki, T. Jojima, M. Inui and H. Yukawa.	Appl. Microbiol. Biotechnol. (in press)

■ 2009 International Oral Presentation

	Title	Researchers	Forum
1	Production of Biofuels/Biochemicals from Non-Food Based Biomass	H. Teramoto and H. Yukawa.	Americana International Trade Show 2009, 17 March 2009.
2	<i>C. glutamicum</i> Secretory System	N. Suzuki and H. Yukawa.	BIT Life Sciences' 2nd Annual World Congress of Industrial Biotechnology 2009 (ibio-2009), 7 April 2009.
3	Biofuel and Biochemical Productions from Mixed Sugars Derived from Lignocellulosic Biomass by the RITE Bioprocess	H. Teramoto and H. Yukawa.	2009 AIChE Spring National Meeting, 29 April 2009.
4	Identification of Genes Involved in Cell Separation in <i>Corynebacterium glutamicum</i>	H. Ogino, Y. Tsuge, H. Teramoto, M. Inui, and H. Yukawa.	109th ASM General Meeting, 17–21 May 2009.
5	Transcriptional Regulation of the <i>gapA</i> Gene Encoding Glyceraldehyde-3-phosphate dehydrogenase in <i>Corynebacterium glutamicum</i>	K. Toyoda, H. Teramoto, M. Inui, and H. Yukawa.	109th ASM General Meeting, 17–21 May 2009.
6	Genome-Wide Systematic Screening of Signal Peptides from <i>Corynebacterium glutamicum</i>	K. Watanabe, Y. Tsuchida, N. Okibe, H. Teramoto, N. Suzuki, M. Inui, and H. Yukawa.	109th ASM General Meeting, 17–21 May 2009.
7	Biofuel and Biochemical Productions from Mixed Sugars Derived from Lignocellulosic Biomass by the RITE Bioprocess	T. Jojima and H. Yukawa.	2009 International Symposium & Annual Meeting of the Korean Society for Microbiology and Biotechnology, 25 June 2009.
8	Biofuel/Commodity Chemical Production by Simultaneous Utilization of Mixed Sugars	K. Hiraga and H. Yukawa.	The 6th World Congress on Industrial Biotechnology and Bioprocessing, 21 July 2009.

	Title	Researchers	Forum
9	Cellulosic bioethanol production by the RITE bioprocess	H. Teramoto and H. Yukawa.	SIM Annual Meeting, 29 July 2009.
10	Search for transporters involved in C4-dicarboxylates utilization in <i>Corynebacterium glutamicum</i>	H. Teramoto, T. Shirai, M. Inui, and H. Yukawa.	SIM Annual Meeting, 26-30 July 2009.
11	Transcriptional regulation of the <i>ldhA</i> gene encoding L-lactate dehydrogenase in <i>Corynebacterium glutamicum</i>	K. Toyoda, H. Teramoto, M. Inui, and H. Yukawa.	SIM Annual Meeting, 26-30 July 2009.

■ 2009 International Publication etc.

	Title	Researchers	Forum
1	Advanced fermentation technologies.	M. Inui, A.A. Vertès and H. Yukawa.	Biomass to Biofuel: Strategies for Global Industries, Wiley, 2010.
2	L-aspartic acid.	S. Okino, M. Inui and H. Yukawa.	The Encyclopedia of Industrial Biotechnology: Bioprocess, Bioseparation, and Cell Technology, John Wiley & Sons, Inc. (in press)
3	L-isoleucine.	T. Jojima, M. Inui and H. Yukawa.	The Encyclopedia of Industrial Biotechnology: Bioprocess, Bioseparation, and Cell Technology, John Wiley & Sons, Inc. (in press)

Chemical Research Group

■ 2009 Original Paper

	Title	Researchers	Journal
1	Oxidation Mechanism of Diesel Particulate Matter in Plasma Discharges	S.Kodama, S.Yao, S.Yamamoto, C.Mine, Y.Fujioka	Chemistry Letters, 38(1) 50-51(2009)
2	Experimental investigation of carbon oxidation	S.Yao, C.Mine, S.Kodama, S.Yamamoto, Y.Fujioka	Chemistry Letters, 38(2) 168-169(2009)
3	Evaluation method of novel absorbents for CO ₂ capture	K. Goto, H. Okabe, S. Shimizu, M. Onoda and Y. Fujioka	Energy Procedia, 1, 1083-1089 (2009)
4	Separation and recovery of carbon dioxide by a membrane flash process utilizing waste thermal energy	K.Okabe, S.Kodama, H.Mano, Y.Fujioka	Energy Procedia 1, 1281-1288(2009)
5	Development of novel tertiary amine absorbents for CO ₂ capture	F.A.Chowdhury, H.Okabe, S.Shimizu, Y.Fujioka M.Onoda, (Nippon Steel Corporation)	Energy Procedia 1, 1241-1248(2009)
6	Techno-economic evaluation of the coal-based gasification combined cycle with CO ₂ capture and storage technology	R. Nagumo, S. Kazama and Y. Fujioka	Energy Procedia, 1, 4089-4093 (2009)
7	Experimental Study of SOF Oxidation Catalysts under Plasma Discharge Condition	S.Yamamoto, S.Yao, S.Kodama, C.Mine, Yuichi Fujioka	Chemistry Letters 38(6) 598-599(2009)
8	Development of cesium-incorporated carbon membranes for CO ₂ separation under humid conditions	T.Kai, S.Kazama, Y.Fujioka	Journal of Membrane Science 342 14-21 (2009)
9	Pulsed plasma PM removal from diesel exhaust emissions. Influences of reaction conditions	Shin Yamamoto, Shuiliang Yao, Satoshi Kodama, Chieko Mine, Yuichi Fujioka Chihiro Fushimi(The University of Tokyo), Kazuhiko Madokoro(Daihatsu Motor Co.,Ltd.), Kazuya Naito(Daihatsu Motor Co.,Ltd.), Yoon-Ho Kim(Daihatsu Motor Co.,Ltd.)	Electrochemistry 1013-1017(2009)
10	On the Scale-Up of Uneven DBD Reactor on Removal of Diesel Particulate Matter	Yao, Shuiliang; Fushimi, Chihiro; Kodama, Satoshi; Yamamoto, Shin; Mine, Chieko; Fujioka, Yuichi; Madokoro, Kazuhiko; Naito, Kazuya; and Kim, Yoon-Ho	International Journal of Chemical Reactor Engineering 7 A76 (2009)

■ 2009 International Oral Presentation

	Title	Researchers	Forum
1	Theoretical Investigation on the Mechanism of CO ₂ Absorption by Aqueous Alkanolamine Solutions	Shinkichi Shimizu, M.Ismael, Ai Suzuki, R.Sahnoun, Michihisa Koyama, Hideyuki Tsuboi, Nozomu Hatakeyama, Akira Toyama, Hiromitsu Takaba, C.D.Carpio, Momoji Kubo, Akira Miyamoto (TOHOKU UNIVERSITY)	International Symposium of Experiment-Integrated Computational 17 January 2009
2	Functionalized Blending Membrane of PAMAM Dendrimer in the Rigid Polym	R.Shimizu, I.Taniguchi, S.Kazama, Y.Fujioka	1st International Conference on Multifunctional, Hybrid and Nanomaterials ours, France 15 March 2009
3	Poly(amidoamine)dendrimer in Poly(ethylene glycol) Network for a CO ₂ Separation Membrane: Mechanism of Preferential CO ₂ Separation	I.Taniguchi, S.Duan, S.Kazama, Y.Fujioka	237th ACS National Meeting & Exposition Saltlake City 28 March 2009
4	PAMAM Dendrimer Membrane for CO ₂ /H ₂ Separation from Pressurized Gas Stream	S.Kazama	Advanced Membrane Technology IV: Membranes for Clean and Sustainable Processes Tronbheim
5	Development of CO ₂ selective separation membranes of poly(amidoamine) dendrimer incorporated into cross-linked poly(vinyl alcohol)	S.Duan, I.Taniguchi, S.Kazama, Y.Fujioka	The 5th Conference of Aseanian Membrane Society Kobe, Japan 13 JULY 2009
6	Dendrimer immobilized hydrogel membrane for the separation of carbon dioxide	R.Shimizu, I.Taniguchi, S.Kazama, Y.Fujioka	The 5th Conference of Aseanian Membrane Society Kobe, Japan 14 JULY 2009
7	Hydrogen separation membrane encapsulating Pd nanoparticles in a mesoporous silica layer	K.Nagata, M.Miyamoto, K.Yogo, Y.Fujioka	The 5th Conference of Aseanian Membrane Society Kobe, Japan 14 JULY 2009
8	Electronic and Atomistic Structure of Alkanolamine for CO ₂ Capture	Shinkichi Shimizu, M.Ismael, Ai Suzuki, R.Sahnoun, Michihisa Koyama, Hideyuki Tsuboi, Nozomu Hatakeyama, Akira Toyama, Hiromitsu Takaba, C.D.Carpio, Momoji Kubo, Akira Miyamoto (TOHOKU UNIVERSITY)	5th Conference of the Aseanian Membrane Society Kobe University 17 JULY 2009
9	CO ₂ -Selective Membrane of Poly(amidoamine) Dendrimer incorporated into cross-linked poly(vinyl alcohol) for CO ₂ Capture	S.Duan, I.Taniguchi, S.Kazama, Y.Fujioka	The 5th Joint CHINA/JAPAN Chemical Engineering Symposium Shaanxi Guesthouse 21 JULY 2009

	Title	Researchers	Forum
10	Development of cesium-incorporated carbon membranes for CO ₂ separation under humid conditions	T.Kai, S.Kazama, Y.Fujioka	EUROMEMBRANE 2009 Le Corum, Palais des Congrès Montpellier, France 7 September 2009
11	A simple modification of the Sanchez-Lacombe equation of state for improved representation of pressure-volume-temperature data	H. Machida Y. Satoa and R.L. Smith Jr.b a Department of Chemical Engineering, Research Center of Supercritical Fluid Technology, Tohoku University, Japan b Graduate School of Environmental Studies, Tohoku University, Japan	5th International Symposium of MTMS' 09 Lecture Hall Graduate School of Natural Science & Technology Kanazawa University 1 JULY 2009
12	CO ₂ separation from gas mixtures by physical absorption using ionic liquids	Shinkichi Shimizu, Yuichi Fujioka, Mitsuhiro Kanakubo other 4 (AIST TOHOKU), Masami Onoda (Nippon Steel Corporation), Kinya Tomisaki (Ryukoku University)	5th International Symposium of Molecular Thermodynamics and Molecular Simulation Kanazawa University 4 August 2009
13	Development of Zero Emission CCS(CO ₂ Capture and Storage) by Ionic Liquid Physical Absorption Technique	Shinkichi Shimizu, Yuichi Fujioka, Mitsuhiro Kanakubo other 5 (AIST TOHOKU), Masami Onoda (Nippon Steel Corporation), Kinya Tomisaki (Ryukoku University)	Supergreen 2009 —International Conference on Supercritical Fluid— Tohoku University 12 August 2009
14	Advanced CO ₂ /H ₂ Separation Materials Incorporating Active Functional Agents	Ryosuke Shimizu, Shuhong Duan, Ikuo Taniguchi, Teruhiko Kai, Shingo Kazama, Yuichi Fujioka	GCEP Research Symposium 2009 Stanford University 6 October 2009
15	Development of Molecular Gate Membrane for CO ₂ Capture	Shingo Kazama	CSLF London Meeting London 7 October 2009

CO₂ Storage Research Group

■ 2009 Original Paper

	Title	Researchers	Journal
1	Evaluation of caprock integrity in geological CO ₂ storage: Laboratory measurements on threshold pressure of argillaceous rock injected supercritical CO ₂	Soshi Nishimoto, Ziqiu Xue, Tamotsu Kiyama,	Exploration Geophysics, Vol.62 No.4, 2009
2	Application of crosswell seismic tomography using difference analysis with data normalization to monitor CO ₂ flooding in an aquifer	Kyosuke Onishi, Tetsuyuki Ueyama, Toshifumi Matsuoka, Dai Nobuoka, Hideki Saito, Azuma Hiroyuki, Ziqiu Xue	International Journal of Greenhouse Gas Control, 3, 311–321, 2009
3	Ultrasonic velocity and attenuation during CO ₂ injection into water-saturated porous sandstone: Measurements using difference seismic tomography	Xinglin Lei, Ziqiu Xue	Physics of the Earth and Planetary Interiors, 176, 224–234, 2009
4	Monitoring and simulation studies for accessing macro- and mesoscale migration of CO ₂ sequestered in an onshore aquifer: Experiences from the Nagaoka pilot site, Japan	Kozo Sato, Saeko Mito, Tadashi Horie, Hiroshi Ohkuma, Hideki Saito, Jiro Watanabe, Tsukasa Yoshimura	International Journal of Greenhouse Gas Control, in submit
5	Saline aquifer CO ₂ sequestration in Japan methodology of storage capacity assessment	Toyokazu Ogawa, Shigetaka Nakanishi, Takumi Shidahara, Tadahiko Okumura, Eiji Hayashi	International Journal of Greenhouse Gas Control, in submit
6	Numerical simulation on multi-scale diffusion on CO ₂ injected in the deep ocean in a practical scenario	Se-Min Jeong, Toru Sato, Baixin Chen, Shigeru Tabeta	International Journal of Greenhouse Gas Control, in press
7	Development of a multi-scale ocean model by using particle laplacian method for anisotropic mass transfer	Se-Min Jeong, Toru Sato, Baixin Chen, Shigeru Tabeta	International Journal for Numerical methods in Fluids, accepted
8	Diffusion simulation of CO ₂ discharged in mesoscale deep ocean by using moving-nesting grid technique	Se-Min Jeong, Toru Sato, Baixin Chen	International Journal of Offshore and Polar Engineering, Vol.19, No.4, pp.1–6, 2009

■ 2009 Articles

	Title	Researchers	Forum
1	A Sensitivity Study of CO ₂ Behavior for the Practical Use of CO ₂ Geological Storage	Ikuo Okamoto, Saeko Mito, Kameichiro Nakagawa	Transactions of the Japan Society of Mechanical Engineers, B, in press
2	Geological Storage of Carbon Dioxide (in Japanese)	Eiji Hayashi, Hironobu Komaki, Shinichi Terada, Hiroshi Matsumoto	The Thermal and nuclear power Vol.60 No.10 pp.1029–1034, 2009/10
3	Numerical estimation of vertical diffusivity in the deep ocean by using moored ADCP	Shinichiro Hirabayashi, Toru Sato, Yuji Watanabe, Fumiyasu Nishibori, Noboru Ioka	The Japan Society of Naval Architects and Ocean Engineers, in press
4	Triple I of CO ₂ Ocean Sequestration against Ocean Surface Acidification	Toru Sato, Toshitaka Omiya	Journal of the Japan Society of Naval Architects and Ocean Engineers, 8, p9–16
5	Linear forcing for numerical generation of anisotropic turbulence field	Shinichiro Hirabayashi, Toru Sato	Journal of the Japan Society of Naval Architects and Ocean Engineers, 8, p 53–59

■ 2009 Oral Presentation

	Title	Researchers	Forum
1	Storage Capacity Assessment in Japan: Comparative Evaluation of CO ₂ aquifer storage capacities across regions (in Japanese)	Toyokazu Ogawa, Takumi Shidahara, Shigetaka Nakanishi, Eiji Hayashi, Tadahiko Okumura	64th JSCE Annual Meeting, 2009
2	Effectiveness of de-ghost process using dual sensor data acquired for CCS site characterization (in Japanese)	Shigeyuki Suda, Kenichi Akama, Taku Kawanaka, Nobuo Kawai, Hideaki Yonekura, Tsukasa Yoshimura, Shiro Ohkawa	120th Society of Exploration Geophysicists of Japan (2009Spring) Conference
3	A Sensitivity Study of CO ₂ Behavior for the Practical Use of Geological Storage (in Japanese)	Ikuo Okamoto, Saeko Mito, Kameichiro Nakagawa	14th National Symposium on Power and Energy Systems (SPES2009)
4	Effect of carbon dioxide (CO ₂) at high concentration on the population of nitrifiers and denitrifiers in pelagic seawater column – a in situ experiment with a pelagic chamber – (in Japanese)	Ikuo Yoshinaga, Tomoki Maeda, Takahisa Nakamura, Yosuke Onishi, Hiroshi Ishida, Kazuhisa Takeuchi, Saeko Mito, Yoshihiko Sako, Yuji Watanabe	12th Annual Meeting of Japanese Society for Marine Biotechnology
5	Post-injection monitoring to ensure safety of CO ₂ storage – A case study at Nagaoka pilot site –	Saeko Mito, Ziqiu Xue	5th IEA GHG Monitoring Network Meeting, Tokyo, Japan, 2009.
6	Experimental study on seismic monitoring of residual supercritical CO ₂ in water-saturated porous sandstones	Keigo Kitamura, Ziqiu Xue	The 9th SEGJ International Symposium
7	Influence of formation water composition on mineral trapping of CO ₂	Saeko Mito, Kameichiro Nakagawa	Goldschmidt2009
8	An experimental study on threshold pressure measurement of caprock when injecting supercritical CO ₂ (in Japanese)	Tamotsu Kiyama, Soshi Nishimoto, Ziqiu Xue, Keigo Kitamura, Daisuke Miyazawa, Yoji Ishijima	Fall meeting of the Mining and Materials Processing Institute of Japan, 2009

	Title	Researchers	Forum
9	Safety assessment of CCS (in Japanese)	Hironobu Komaki, Eiji Hayashi, Kameichiro Nakagawa	Fall meeting of the Mining and Materials Processing Institute of Japan, 2009
10	Activity for Safety Assessment of CCS at RITE	Eiji Hayashi, Kameichiro Nakagawa, Hironobu Komaki, Hiroshi Matsumoto, Ikuo Okamoto, Saeko Mito, Keigo Kitamura	Japan Geoscience Union meeting 2009
11	Progress and Next R&D Topics of CO ₂ Ocean Sequestration Technology	Michimasa Magi, Shigeo Murai	14th National Symposium on Power and Energy Systems (SPES2009)
12	Current Status of CCS Technology in Japan	Shigeo Murai	5th Japan –Korea Symposium on Electric Power Technology

■ 2009 Others

	Title	Researchers	Forum
1	Evaluation Study of CCS for the Mitigation Measure of Atmospheric CO ₂ and Ocean Acidification by the Global Carbon Cycle Model	Michimasa Magi	Goldschmidt2009
2	A sensitivity study of long-term CO ₂ behaviour in Nagaoka reservoir rock	Ikuo Okamoto, Saeko Mito, Kameichiro Nakagawa	Workshop – Modeling and risk assessment of geological storage of CO ₂
3	CO ₂ Sequestration Monitoring in a Low Salinity Formation Water Environment	Xing Wang Yang, Doug Murray, Tadashi Horie, Tukasa Yoshimura, Saeko Mito	AAPG Hedberg Conference
4	CO ₂ Sequestration Monitoring in a Low Salinity Formation Water Environment	Xing Wang Yang, Doug Murray, Tadashi Horie, Tukasa Yoshimura, Saeko Mito	SEG 2009 Summer Research Workshop
5	A feasibility study of CO ₂ geological storage in Japan (saline aquifer, geothermal area, serpentinite area)	K. Nakagawa, A. Ueda, H. Wakahama, S. Mito, I. Okamoto	International conference on CO ₂ sequestration processes
6	Monitoring activities at RITE: a pilot CO ₂ injection project at an onshore aquifer, Nagaoka, Japan.	Saeko Mito, Kameichiro Nakagawa	International conference on CO ₂ sequestration processes
7	Monitoring and verification of stored CO ₂ at the Nagaoka pilot injection site	Saeko Mito	ESF–FWF Conference in Partnership with LFUI CO ₂ Geological Storage: Latest Progress
8	Detecting and monitoring CO ₂ with p-wave velocity and resistivity from both laboratory and field scales	Z. Xue, J Kim., S. Mito, K. Kitamura, T. Matsuoka	SPE2009
9	Diffusion of low pH/high CO ₂ environment at natural CO ₂ venting sites	Kiminori Shitashima, Michimasa Magi	The eleventh Pacific Science Inter–Congress
10	Long term prediction of atmospheric CO ₂ concentration and ocean acidification	Michimasa Magi	The eleventh Pacific Science Inter–Congress