Curriculum Vitae (CV)

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Tomoko Hasegawa

Associate Professor

College of Science and Engineering

Ritsumeikan University,

1-1-1 Noji-higashi, Kusatsu, Shiga 525-8577 Japan

Postgraduate Experience

2019 – present	Associate Professor, Ritsumeikan University, Shiga, Japan;
2016 – 2019	Researcher, National Institute for Environmental Studies (NIES), Japan;
2016 – 2019	Guest Research Scholar, International Institute for Applied Systems Analysis (IIASA), Austria.
2014 – 2016	Research Associate, NIES, Japan
2011 – 2014	Research Fellow of the Japan Society for the Promotion of Science, NIES, Japan

Education:

2011	Ph.D. (Engineering) Kyoto University, Japan.
2008	M.A. (Environment Management), Kyoto University, Japan.
2006	B.A. (Environmental Urban Engineering) Osaka City University, Japan.

Biography

Tomoko Hasegawa is an Associate Professor at Ritsumeikan University's College of Science and Engineering, having joined it in April 2019. Her main research focuses on food- and land-related topics in global computer simulation modeling, including food system, land use change and dynamics, greenhouse gases emissions, climate mitigation options, climate impacts and adaptation for agriculture and food security. Her research attempts to inform global and national environmental policy on emission reduction targets and mitigation options in the agricultural and land use sectors.

She is involved in the development and application of a computer simulation model named AIM (Asian-Pacific Integrated Model). Through its application she has been involved in many international projects and interdisciplinary activities

related to the above-mentioned topics and published more than 70 peer-reviewed papers. She has been selected as a Highly Cited Researchers 2019 and 2020 by Clarivate Analytics in Cross-Field category and received the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology, Young Scientist's Prize in 2021. She is a Lead Author of the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.

Recently, she has been involved in many international projects and interdisciplinary activities such as IAMC (Integrated Assessment Modeling Consortium), EMF (Energy Modeling Forum), AgMIP (The Agricultural Model Intercomparison and Improvement Project), and the scenario meetings of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). She jointly developed Land Use Harmonization (LUH2) and Shared Socioeconomic Pathways (SSPs) with other research institutes and provide SSP3 marker scenario for next generation of climate mitigation and adaptation assessment as well as Earth system model simulation.

Most relevant publications

(1) Hasegawa T, et al., Reply to: An appeal to cost undermines food security risks of delayed mitigation, Nature Climate Change 10, 420-421, 2020.

(2) Leclère D, Obersteiner M, Barrett M, Butchart SHM, Chaudhary A, De Palma A, et al. Bending the curve of terrestrial biodiversity needs an integrated strategy. Nature 2020, 585(7826): 551-556.

(3) Janssens C, …, Hasegawa T, et al., Global hunger and climate change adaptation through international trade, Nature Climate Change, 2020.

(4) Hasegawa T, Havlik P, Frank S, Palazzo A, Valin H. Tackling food consumption inequality to fight hunger without pressuring the environment. Nature Sustainability 2019, 2(9): 826-833.

(5) Fujimori S, Oshiro K, Shiraki H, Hasegawa T, Energy Transformation Cost for the Japanese Mid-century Strategy. Nature Communications 2019, 10, 4737.

(6) Fujimori S, Hasegawa T, Krey V, Riahi K, Bertram C, Bodirsky BL, et al. A multi-model assessment of food security implications of climate change mitigation. Nature Sustainability 2019, 2(5): 386-396.

(7) Ohashi H, Hasegawa T, Hirata A, Fujimori S, Takahashi K, Tsuyama I, et al. Biodiversity

can benefit from climate stabilization despite adverse side effects of land-based mitigation. Nature Communications 2019, 10(1): 5240.

(8) Roe S, Streck C, Obersteiner M, Frank S, Griscom B, Drouet L, …, Hasegawa T, et al. Contribution of the land sector to a 1.5 °C world. Nature Climate Change 2019, 9(11): 817-828.

(9) Stehfest E, van Zeist W-J, Valin H, Havlik P, Popp A, Kyle P, …, Hasegawa T, et al. Key determinants of global land-use projections. Nature Communications 2019, 10(1): 2166.

(10) Hasegawa T, Fujimori S, et al. Risk of increased food insecurity under stringent global climate change mitigation policy. *Nature Climate Change* 2018, 8(8): 699-703.

(11) Hasegawa T, et al. Global land-use allocation model linked to an integrated assessment model. Science of The Total Environment, 2017, 580:787-796.

(12) Frank S, Beach R, Havlik P, Valin H, Herrero M, Mosnier A, …, Hasegawa T, et al. Structural change as a key component for agricultural non-CO2 mitigation efforts. Nature Communications 2018, 9(1): 1060.

(13) Rogelj J, Popp A, Calvin KV, Luderer G, Emmerling J, Gernaat D, …, Hasegawa T, et al. Scenarios towards limiting global mean temperature increase below 1.5 °C. Nature Climate Change 2018, 8(4): 325-332.

(14) Hasegawa T, Fujimori S, et al. Economic implications of climate change impacts on human health through undernourishment. Climatic Change, 2016, (136), 189–202.

(15) Hasegawa T, Fujimori S, et al. Climate Change Impact and Adaptation Assessment on Food Consumption Utilizing a New Scenario Framework. Environmental science & technology 2014, 48(1): 438-445.

(16) Hasegawa T, et al. Climate change mitigation strategies in agriculture and land use in Indonesia. Mitigation and Adaptation Strategies for Global Change 2015, 20(3): 409-424.

Recent peered publications

(1) Ai Z, Hanasaki N, Heck V, Hasegawa T, Fujimori S. Global bioenergy with carbon capture and storage potential is largely constrained by sustainable irrigation. Nature Sustainability 2021.

(2) Shiogama H, Fujimori S, Hasegawa T, Takahashi K, Kameyama Y, Emori S. How many hot days and heavy precipitation days will grandchildren experience that break the records set in their grandparents' lives? Environmental Research Communications 2021, 3(6): 061002.

(3) Grassi G, Stehfest E, Rogelj J, van Vuuren D, Cescatti A, House J,…, Hasegawa T, et al. Critical adjustment of land mitigation pathways for assessing countries' climate progress. *Nature Climate Change* 2021

(4) Park CY, Takahashi K, Takakura J, Li F, Fujimori S, Hasegawa T, et al. How Will Deforestation and Vegetation Degradation Affect Global Fire Activity? *Earth's Future* 2021, **9**(5)**:** e2020EF001786.

(5) Hurtt GC, Chini L, Sahajpal R, Frolking S, Bodirsky BL, Calvin K, …, Hasegawa T, et al. Harmonization of global land use change and management for the period 850–2100 (LUH2) for CMIP6. Geosci Model Dev 2020, 13(11): 5425-5464.

(6) O'Neill BC, Carter TR, Ebi K, Harrison PA, Kemp-Benedict E, Kok K, …, Hasegawa T, et al. Achievements and needs for the climate change scenario framework. Nature Climate Change 2020, 10(12): 1074-1084.

(7) Fujimori S, Hasegawa T, Oshiro K. An assessment of the potential of using carbon tax revenue to tackle poverty. Environmental Research Letters 2020, 15(11): 114063.

(8) Hasegawa T, et al., Reply to: An appeal to cost undermines food security risks of delayed mitigation, Nature Climate Change 10, 420-421, 2020.

(9) Leclère D, Obersteiner M, Barrett M, Butchart SHM, Chaudhary A, De Palma A, …, Hasegawa T, et al. Bending the curve of terrestrial biodiversity needs an integrated strategy. Nature 2020, 585(7826): 551-556.

(10) Wu W, Hasegawa T, Fujimori S, Takahashi K, Oshiro K. Assessment of bioenergy potential and associated costs in Japan for the 21st century. *Renewable Energy* 2020, 162: 308-321.

(11) Hasegawa T, Sands RD, Brunelle T, Cui Y, Frank S, Fujimori S*, et al.* Food security under high bioenergy demand toward long-term climate goals. *Climatic Change* 2020, 163(3), 1587-1601.

(12) Fujimori S, Hasegawa T, Takahashi K, Dai H, Liu J-Y, Ohashi H*, et al.* Measuring the sustainable development implications of climate change mitigation. *Environmental Research Letters* 2020, 15(8): 085004

(13) Janssens C, Havlík P, Krisztin T, Baker J, Frank S, Hasegawa T, et al. Global hunger and climate change adaptation through international trade. Nature Climate Change 2020.

(14) Shiogama H, Hirata R, Hasegawa T, Fujimori S, Ishizaki NN, Chatani S*, et al.* Historical and future anthropogenic warming effects on droughts, fires and fire emissions of CO2 and PM2.5 in equatorial Asia when 2015-like El Niño events occur. *Earth Syst Dynam* 2020, 11(2)**:** 435-445.

(15) Hasegawa T, Fujimori S, Havlík P, Valin H, Bodirsky BL, Doelman JC*, et al.* Reply to: An appeal to cost undermines food security risks of delayed mitigation. *Nature Climate Change* 2020, 10(5)**:** 420-421.

(16) Pereira HM, Rosa IMD, Martins IS, Kim H, Leadley P, Popp A, …, Hasegawa T, et al. Global trends in biodiversity and ecosystem services from 1900 to 2050. bioRxiv 2020:

2020.2004.2014.031716.

(17) van Meijl H, Shutes L, Valin H, Stehfest E, van Dijk M, Kuiper M, …, Hasegawa T, et al. Modelling alternative futures of global food security: Insights from FOODSECURE. Global Food Security 2020, 25: 100358.

(18) Zhou W, McCollum DL, Fricko O, Fujimori S, Gidden M, Guo F, …, Hasegawa T, et al. Decarbonization pathways and energy investment needs for developing Asia in line with 'well below' 2°C. Climate Policy 2020, 20(2): 234-245.

(19) Hanssen SV, Daioglou V, Steinmann ZJN, Frank S, Popp A, Brunelle T, …, Hasegawa T, et al. Biomass residues as twenty-first century bioenergy feedstock—a comparison of eight integrated assessment models. Climatic Change 2020, 163(3): 1569-1586.

(20) Bauer N, Rose S, Fujimori S, Vuuren D, Weyant J, Wise M, …, Hasegawa T, et al. Global energy sector emission reductions and bioenergy use: overview of the bioenergy demand phase of the EMF-33 model comparison. Climatic Change 2020, 163

(21) Hasegawa T, Havlik P, Frank S, Palazzo A, Valin H. Tackling food consumption inequality to fight hunger without pressuring the environment. Nature Sustainability 2019, 2(9): 826-833.

(22) Fujimori S, Hasegawa T, Krey V, Riahi K, Bertram C, Bodirsky BL, et al. A multi-model assessment of food security implications of climate change mitigation. Nature Sustainability 2019, 2(5): 386-396.

(23) Fujimori S, Oshiro K, Shiraki H, Hasegawa T. Energy transformation cost for the Japanese mid-century strategy. Nature Communications 2019, 10(1): 4737.

(24) Liu J-Y, Fujimori S, Takahashi K, Hasegawa T, Wu W, Takakura Jy, et al. Identifying trade-offs and co-benefits of climate policies in China to align policies with SDGs and achieve the 2 °C goal. Environmental Research Letters 2019, 14(12): 124070.

(25) Ohashi H, Hasegawa T, Hirata A, Fujimori S, Takahashi K, Tsuyama I, et al. Biodiversity can benefit from climate stabilization despite adverse side effects of land-based mitigation. Nature Communications 2019, 10(1): 5240.

(26) Wu W, Hasegawa T, Ohashi H, Hanasaki N, Liu J, Matsui T, et al. Global advanced bioenergy potential under environmental protection policies and societal transformation measures. GCB Bioenergy 2019, 11(9): 1041-1055.

(27) Shiogama H, Hasegawa T, Fujimori S, Murakami D, Takahashi K, Tanaka K, et al. Limiting global warming to 1.5 °C will lower increases in inequalities of four hazard indicators of climate change. Environmental Research Letters 2019, 14(12): 124022.

(28) Roe S, Streck C, Obersteiner M, Frank S, Griscom B, Drouet L, …, Hasegawa T, et al. Contribution of the land sector to a 1.5 °C world. Nature Climate Change 2019, 9(11): 817-828.

(29) Stehfest E, van Zeist W-J, Valin H, Havlik P, Popp A, Kyle P, …, Hasegawa T, et al. Key determinants of global land-use projections. Nature Communications 2019, 10(1): 2166.
(30) Takakura Jy, Fujimori S, Hanasaki N, Hasegawa T, Hirabayashi Y, Honda Y, et al. Dependence of economic impacts of climate change on anthropogenically directed pathways. Nature Climate Change 2019, 9(10): 737-741.
(31) Gidden MJ, Riahi K, Smith SJ, Fujimori S, Luderer G, Kriegler E, …, Hasegawa T, et al. Global emissions pathways under different socioeconomic scenarios for use in CMIP6: a dataset of harmonized emissions trajectories through the end of the century. Geosci Model Dev 2019, 12(4): 1443-1475.
(32) Matsumoto K, Hasegawa T, Morita K, Fujimori S. Synergy potential between climate change mitigation and forest conservation policies in the Indonesian forest sector: implications for achieving multiple sustainable development objectives. Sustainability Science 2019, 14(6): 1657-1672.
(33) Shiogama H, Hirata R, Hasegawa T, Fujimori S, Ishizaki N, Chatani S, et al. Historical and future anthropogenic warming effects on the year 2015 droughts, fires and fire emissions of CO2 and PM2.5 in equatorial Asia. Earth Syst Dynam Discuss 2019, 2019: 1-18
(34) Fitton N, Alexander P, Arnell N, Bajzelj B, Calvin K, Doelman J, …, Hasegawa T, et al. The vulnerabilities of agricultural land and food production to future water scarcity. *Global Environmental Change* 2019, **58:** 101944.
(35) Tang L, Furushima Y, Honda Y, Hasegawa T, Itsubo N. Estimating human health damage factors related to CO2 emissions by considering updated climate-related relative risks. The International Journal of Life Cycle Assessment 2019, 24(6): 1118-1128.
(36) Hasegawa T, Fujimori S, Havlik P, Valin H, Bodirsky BL, Doelman JC, et al. Risk of increased food insecurity under stringent global climate change mitigation policy. Nature Climate Change 2018, 8(8): 699-703.
(37) Ebi KL, Hasegawa T, Hayes K, Monaghan A, Paz S, Berry P. Health risks of warming of 1.5 °C, 2 °C, and higher, above pre-industrial temperatures. Environmental Research Letters 2018, 13(6): 063007.
(38) Frank S, Beach R, Havl?k P, Valin H, Herrero M, Mosnier A, …, Hasegawa T, et al. Structural change as a key component for agricultural non-CO2 mitigation efforts. Nature Communications 2018, 9(1): 1060.
(39) Fujimori S, Hasegawa T, Ito A, Takahashi K, Masui T. Gridded emissions and land-use data for 2005-2100 under diverse socioeconomic and climate mitigation scenarios. Scientific data 2018, 5: 180210-180210.
(40) Fujimori S, Hasegawa T, Rogelj J, Su X, Havlik P, Krey V, et al. Inclusive climate change

mitigation and food security policy under 1.5?°C climate goal. Environmental Research Letters 2018, 13(7): 074033.

(41) Fujimori S, Iizumi T, Hasegawa T, Takakura Jy, Takahashi K, Hijioka Y. Macroeconomic Impacts of Climate Change Driven by Changes in Crop Yields. Sustainability 2018, 10(10).

(42) Kim H, Rosa IMD, Alkemade R, Leadley P, Hurtt G, Popp A, …, Hasegawa T, et al. A protocol for an intercomparison of biodiversity and ecosystem services models using harmonized land-use and climate scenarios. Geosci Model Dev 2018, 11(11): 4537-4562.

(43) Liu J-Y, Fujimori S, Takahashi K, Hasegawa T, Su X, Masui T. Socioeconomic factors and future challenges of the goal of limiting the increase in global average temperature to 1.5 °C. Carbon Management 2018, 9(5): 447-457.

(44) Park C, Fujimori S, Hasegawa T, Takakura Jy, Takahashi K, Hijioka Y. Avoided economic impacts of energy demand changes by 1.5 and 2°C climate stabilization. Environmental Research Letters 2018, 13(4): 045010.

(45) Rogelj J, Popp A, Calvin KV, Luderer G, Emmerling J, Gernaat D, …, Hasegawa T, et al. Scenarios towards limiting global mean temperature increase below 1.5 °C. Nature Climate Change 2018, 8(4): 325-332.

(46) Su X, Shiogama H, Tanaka K, Fujimori S, Hasegawa T, Hijioka Y, et al. How do climate-related uncertainties influence 2 and 1.5 °C pathways? Sustainability Science 2018, 13: 1-9.

(47) Takakura Jy, Fujimori S, Takahashi K, Hasegawa T, Honda Y, Hanasaki N, et al. Limited Role of Working Time Shift in Offsetting the Increasing Occupational-Health Cost of Heat Exposure. Earth's Future 2018, 6(11): 1588-1602.

(48) Xie Y, Dai H, Xu X, Fujimori S, Hasegawa T, Yi K, et al. Co-benefits of climate mitigation on air quality and human health in Asian countries. Environment International 2018, 119: 309-318.

(49) Frank S, Havlík P, Soussana J-F, Levesque A, Valin H, Wollenberg E, …, Hasegawa T, et al. Reducing greenhouse gas emissions in agriculture without compromising food security? Environmental Research Letters 2017, 12(10): 105004.

(50) Iizumi T, Furuya J, Shen Z, Kim W, Okada M, Fujimori S, …, Hasegawa T, et al. Responses of crop yield growth to global temperature and socioeconomic changes. Scientific Reports 2017, 7(1): 7800.

(51) Takakura J, …, Hasegawa T, et al. Cost of preventing workplace heat-related illness through worker breaks and the benefit of climate-change mitigation. Environ Res Lett 2017, 12(6).

(52) Su X, Takahashi K, Fujimori S, Hasegawa T, Tanaka K, Kato E, et al. Emission pathways

to achieve 2.0°C and 1.5°C climate targets. Earth's Future 2017, 5(6): 592-604.

(53) Hasegawa T, Fujimori S, Ito A, Takahashi K, Masui T. Global land-use allocation model linked to an integrated assessment model. Science of The Total Environment 2017, 580: 787-796.

(54) Fujimori S, Hasegawa T, Masui T, Takahashi K, Herran DS, Dai H, et al. SSP3: AIM implementation of Shared Socioeconomic Pathways. Global Environmental Change 2017, 42: 268-283.

(55) Rao S, Klimont Z, Smith SJ, Van Dingenen R, Dentener F, Bouwman L, …, Hasegawa T, et al. Future air pollution in the Shared Socio-economic Pathways. Global Environmental Change 2017, 42: 346-358.

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(57) Riahi K, van Vuuren DP, Kriegler E, Edmonds J, O'Neill BC, Fujimori S, …, Hasegawa T, et al. The Shared Socioeconomic Pathways and their energy, land use, and greenhouse gas emissions implications: An overview. Global Environmental Change 2017, 42(Supplement C): 153-168.

(58) Alexander P, Prestele R, Verburg PH, Arneth A, Baranzelli C, Batista e Silva F, …, Hasegawa T, et al. Assessing uncertainties in land cover projections. Global Change Biology 2017, 23(2): 767-781.

(59) Fujimori S, Abe M, Kinoshita T, Hasegawa T, Kawase H, Kushida K, et al. Downscaling Global Emissions and Its Implications Derived from Climate Model Experiments. PLOS ONE 2017, 12(1): e0169733.

(60) Hasegawa T, Fujimori S, Boer R, Immanuel G, Masui T. Land-Based Mitigation Strategies under the Mid-Term Carbon Reduction Targets in Indonesia. Sustainability 2016, 8(12): 1283.

(61) Hasegawa T, Fujimori S, Takahashi K, Yokohata T, Masui T. Economic implications of climate change impacts on human health through undernourishment. *Climatic Change* 2016(136)**:** 189–202.

(62) Hasegawa T, Fujimori S, Masui T, Matsuoka Y. Introducing detailed land-based mitigation measures into a computable general equilibrium model. Journal of Cleaner Production 2016, 114: 233-242

(63) Hasegawa T, Park C, Fujimori S, Takahashi K, Hijioka Y, Masui T. Quantifying the economic impact of changes in energy demand for space heating and cooling systems under varying climatic scenarios. Palgrave Communications 2016, 2: 16013.

(64) Prestele R, Alexander P, Rounsevell MDA, Arneth A, Calvin K, Doelman J, …, Hasegawa

T, et al. Hotspots of uncertainty in land-use and land-cover change projections: a global-scale model comparison. Global Change Biology 2016, 22(12): 3967-3983.

(65) Fujimori S, Kubota I, Dai H, Takahashi K, Hasegawa T, Liu J-Y*, et al.* Will international emissions trading help achieve the objectives of the Paris Agreement? Environmental Research Letters 2016, 11(10)**:** 104001.

(66) Fujimori S, Su X, Liu J-Y, Hasegawa T, Takahashi K, Masui T, et al. Implication of Paris Agreement in the context of long-term climate mitigation goals. SpringerPlus 2016, 5: 1-11

(67) Hasegawa T, Fujimori S, Shin Y, Tanaka A, Takahashi K, Masui T. Consequence of Climate Mitigation on the Risk of Hunger. *Environmental Science & Technology* 2015, 49(12)**:** 7245-7253.

(68) Hasegawa T, Fujimori S, Takahashi K, Masui T. Scenarios for the risk of hunger in the twenty-first century using Shared Socioeconomic Pathways. *Environmental Research Letters* 2015, 10(1)**:** 014010

(69) Hasegawa T, Matsuoka Y. Climate change mitigation strategies in agriculture and land use in Indonesia. *Mitigation and Adaptation Strategies for Global Change* 2015, **20**(3)**:** 409-424.

(70) Jilani T, Hasegawa T, Matsuoka Y. The future role of agriculture and land use change for climate change mitigation in Bangladesh. *Mitigation and Adaptation Strategies for Global Change* 2015, 20(8)**:** 1289-1304.

(71) Hak M, Hasegawa T, Matsuoka Y. An assessment of GHG emissions and mitigation potential from Agriculture, Forestry and Other Land-Use in Cambodia. *Journal of Global Environment Engineering* 2015, 71(5)**:** 12.

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(73) Hasegawa T, Fujimori S, Shin Y, Takahashi K, Masui T, Tanaka A. Climate Change Impact and Adaptation Assessment on Food Consumption Utilizing a New Scenario Framework. Environmental Science & Technology 2014, 48(1): 438-445.

(74) Fujimori S, Hasegawa T, Masui T, Takahashi K. Land use representation in a global CGE model for long-term simulation: CET vs. logit functions. Food Sec 2014, 6(5): 685-699.

(75) Ngauyen TH, Hasegawa T, Matsuoka Y. Climate change mitigation strategies in agriculture, forestry and other land use sectors in Vietnam. Mitigation and Adaptation Strategies for Global Change 2014, 19(1): 15-32.

(76) Fujimori S, Kainuma M, Masui T, Hasegawa T, Dai H. The effectiveness of energy service

demand reduction: A scenario analysis of global climate change mitigation. Energy Policy 2014, 75: 379-391.

(77) Ishida H, Kobayashi S, Kanae S, Hasegawa T, Fujimori S, Shin Y*, et al.* Global-scale projection and its sensitivity analysis of the health burden attributable to childhood undernutrition under the latest scenario framework for climate change research. *Environmental Research Letters* 2014, 9(6)**:** 064014

(78) Nelson GC, Valin H, Sands RD, Havlík P, Ahammad H, Deryng D*,* …, Hasegawa T, et al*.* Climate change effects on agriculture: Economic responses to biophysical shocks. *Proceedings of the National Academy of Sciences* 2014, 111(9)**:** 3274-3279.

(79) von Lampe M, Willenbockel D, Ahammad H, Blanc E, Cai Y, Calvin K*,* …, Hasegawa T, et al. Why do global long-term scenarios for agriculture differ? An overview of the AgMIP Global Economic Model Intercomparison. *Agricultural Economics* 2014, 45(1)**:** 3-20.

(80) Valin H, Sands RD, van der Mensbrugghe D, Nelson GC, Ahammad H, Blanc E*,* …, Hasegawa T, et al. The future of food demand: understanding differences in global economic models. *Agricultural Economics* 2014, 45(1)**:** 51-67.

(81) Schmitz C, van Meijl H, Kyle P, Nelson GC, Fujimori S, Gurgel A*, …,* Hasegawa T, et al*.* Land-use change trajectories up to 2050: insights from a global agro-economic model comparison. *Agricultural Economics* 2014, 45(1)**:** 69-84.

(82) Nelson GC, van der Mensbrugghe D, Ahammad H, Blanc E, Calvin K, *…,* Hasegawa T*, et al.* Agriculture and climate change in global scenarios: why don't the models agree. *Agricultural Economics* 2014, 45(1)**:** 85-101.

(83) Lotze-Campen H, von Lampe M, Kyle P, Fujimori S, Havlik P, van Meijl H*, …,* Hasegawa T, et al. Impacts of increased bioenergy demand on global food markets: an AgMIP economic model intercomparison. *Agricultural Economics* 2014, 45(1)**:** 103-116.

(84) Hasegawa T, Matsuoka Y. Greenhouse gas emissions and mitigation potentials in agriculture, forestry and other land use in Southeast Asia. *Journal of Integrative Environmental Sciences* 2012, 9(1)**:** 159-176.

(85) Hasegawa T, Matsuoka Y. Global methane and nitrous oxide emissions and reduction potentials in agriculture. *Journal of Integrative Environmental Sciences* 2010, **7**(sup1)**:** 245-256.

(86) Hasegawa T, Fujimori S, Matsuoka Y. A study on emission accounting system of global agricultural activities. *IOP Conference Series: Earth and Environmental Science* 2009, 6(24)**:** 242018.

(87) Hanaoka T, Akashi O, Hasegawa T, Hibino G, Fujiwara K, Kanamori Y, et al. Global emissions and mitigation of greenhouse gases in 2020. Journal of Global Environment Engineering 2009, 14: 15-26.

Invited Lectures

(1) Hasegawa T. (2021), How do we reconcile a long-term climate goal and sustainable development? SDGs Symposium 2021: Interdisciplinary science solutions for food, water, climate and ecosystems Sustainable Development Goals, 2021, Zoom Webinar

(2) Hasegawa T, Fujimori S. (2017) Food security under climate mitigation. Measuring Progresses towards the 2030 Agenda: an Updated Assessment.

(3) Masui T, Fujimori S, Hasegawa T, Takahashi K, Hanasaki N, Kainuma M. (2013) Next Generation Scenarios for Climate Assessment, the SSPs. 36th Annual IAEE International Conference

Reports

(1) Valin H, Hertel T, Bodirsky BL, Hasegawa T, Stehfest E, Achieving Zero Hunger by 2030 – A Review of Quantitative Assessments of Synergies and Tradeoffs amongst the UN Sustainable Development Goals, United Nations Food Systems Summit 2021.

(2) Hasegawa T. An estimation method for the emission accounting table of global agricultural activities. Interim Report; 2009: International Institute for Applied and Systems Analysis (IIASA). ; 2009.

(3) Hanaoka T., Akashi O., Kanamori Y., Hasegawa T., Hibino G., Fujiwara K., Kainuma M., Matsuoka Y., Global Greenhouse Gas Emissions Reduction Potentials and Mitigation Costs in 2020 -Methodology and Results, CGER-REPORT, ISSN 1341-4356, 2008.

(4) Hanaoka T., Akashi O., Kanamori Y., Ikegami T., Kainuma M., Hasegawa T., Fujimori S., Matsuoka Y., Hibino G., Fujiwara K., Motoki Y., Global Greenhouse Gas Technological Mitigation Potentials and Costs in 2020 -The Revised Edition-, AIM Project Technical Paper, 2008.

Awards

Award, International Association for Urban Climate	2006
JSCE Award, Japan Society of Civil Engineers	2009
JSCE Award, Japan Society of Civil Engineers	2014
JSCE Award, Japan Society of Civil Engineers	2015
JSCE Award, Japan Society of Civil Engineers	2016
Best Paper Award, The Second Global Conference on Theory and Applications of OR/OM for Sustainability	2017

Highly Cited Researchers 2019, Clarivate Analytics	2019
Highly Cited Researchers 2020, Clarivate Analytics	2020
Young Scientists' Prize of the Minister of Education, Culture, Sports, Science and Technology, Japan.	2021

Selected grants acquired during the past five years

(1)	KAKENHI, Grant-in-Aid for Science Research, Grant-in-Aid for Scientific Research (B)
Number	19H02273
Year	FY2019 - present,
Role	Co-Investigator
Institute	Ritsumeikan University
(2)	KAKENHI, Postdoctoral Fellowships for Research Abroad
Year	FY2016 – 2018
Role	Project leader
Institute	National Institute for Environmental Studies, Japan
(3)	KAKENHI, Grant-in-Aid for Science Research, Grant-in-Aid for Young Scientists (B)
Number	15K16164
Year	FY2015 – 2017
Role	Project leader
Institute	National Institute for Environmental Studies, Japan
(4)	KAKENHI, Grant-in-Aid for Research Fellowships of the Japan Society for the Promotion of Science for Young Scientists
Number	11J07066
Year	FY2011 – FY2013,
Role	Project leader
Institute	National Institute for Environmental Studies, Japan