

*Curriculum Vitae*

**Yosuke Shigetomi**

Assistant Professor, Faculty of Environmental Science, Nagasaki University, Japan

1-14 Bunkyo-machi, Nagasaki, Japan 852-8521

y-shigetomi [at] nagasaki-u.ac.jp, +81-95-819-2785

**Nationality:** Japan

**Primary Employment**

Apr. 2016-Present      Assistant Professor, Faculty of Environmental Science, Nagasaki University

**Previous Employments**

Apr. 2014-Mar. 2016      Research Fellow (DC2), Japan Society for the Promotion Science

Apr. 2013-Mar. 2014      Research Assistant, National Institute for Environmental Studies, Japan

**Education**

Apr. 2013-Mar. 2016      **Doctor of Philosophy in Energy Science**

*Graduate School of Energy Science, Kyoto University, Japan*

Dissertation: “Study of Mid-Term Impact of Japanese Households on Formation of Low-Carbon Society from Consumption-Based Approach”

Supervisors: Dr. Keisuke Nansai, Prof. Susumu Tohno

Apr. 2011-Mar. 2013      **Master’s Degree in Energy Science**

*Graduate School of Energy Science, Kyoto University, Japan*

Apr. 2007-Mar. 2011      **Bachelor’s Degree in Engineering**

*Department of Applied Chemistry, Osaka Prefecture University, Japan*

**Professional Experience**

Apr. 2015-Mar. 2016      Head of the Student Communication Network at the Institute of Life Cycle Assessment, Japan (ILCAJ-SCN)

Oct. 2014      Chief conference organizer of the First Young Researchers Meeting in the 11th EcoBalance Conference 2014

Sept. 2014      Organizer of the Discussion Meeting at the 6th ILCAJ-SCN Summer Workshop

**Research Interests**

Industrial Ecology, Environmental Economics, Environmental Footprint, Environmentally Extended Input-Output Analysis, Household Consumption, Climate Change, Critical Mineral Resources

**Publications**

## (Peer-Reviewed Journal Articles)

1. Shigetomi, Y., Nansai, K., Kagawa, S., Tohno, S. (2018) Fertility-rate recovery and double-income policies require solving the carbon gap under the Paris Agreement, *Resources, Conservation & Recycling*, 133, 385-394.
2. Shigetomi, Y., Nansai, K., Kagawa, S., Kondo, Y., Tohno, S. (2017) Economic and social determinants of global physical flows of critical metals, *Resources Policy*, 52, 107-113.
3. Nansai, K., Nakajima, K., Suh, S., Kagawa, S., Kondo, Y., Takayanagi, W., Shigetomi, Y. (2017) The role of primary processing in the supply risks of critical metals, *Economic Systems Research*, forthcoming
4. Shigetomi, Y., Nansai, K., Kagawa, S., Tohno, S. (2016) Influence of income differences on carbon and material footprints for critical metals: the case of Japanese households, *Journal of Economic Structures*, 5 (1), 1-19.
5. Shigetomi, Y., Nansai, K., Kagawa, S., Tohno, S. (2015) Trends in Japanese households' critical-metals material footprints, *Ecological Economics*, 119, 118-126.
6. Nansai, K., Nakajima, K., Kagawa, S., Kondo, Y., Shigetomi, Y., Suh, S. (2015) Global mining risk footprint of critical metals necessary for low-carbon technology: the case of neodymium, cobalt, and platinum, *Environmental Science & Technology*, 49, 2022-2031.
7. Shigetomi, Y., Nansai, K., Kagawa, S., Tohno, S. (2014) Changes in the carbon footprint of Japanese households in an aging society, *Environmental Science & Technology*, 48, 6069-6080.
8. Nansai, K., Nakajima, K., Kagawa, S., Kondo, Y., Suh, S., Shigetomi, Y., Oshita, Y. (2014) Global flows of critical metals necessary for low-carbon technologies: the case of neodymium, cobalt, and platinum, *Environmental Science & Technology*, 48, 1391-1400.
9. Shigetomi, Y., Yuba, A., Sadanaga, Y., Takami, A., Hatakeyama, S., Kato, S., Kajii, Y., Takenaka, N., Bandow, H. (2012) Yearly variations of the transboundary air pollutants by the long-term continuous measurements at Cape Hedo, Okinawa, *Journal of Japan Society for Atmospheric Environment*, 47, 46-50. (in Japanese)

## (Book chapter)

1. Shigetomi, Y., Nansai, K., Shironitta, K., Shigemi, K. (2017) Chapter 16: Revisiting Japanese carbon footprint studies, *Environmental and Economic Impacts of Decarbonization: Input–Output Studies on the Consequences of the 2015 Paris Agreements*, (Eds:) Dejuán, Ó., Lenzen M., Cadarso, M-Á, 335-350, Routledge.

## (Other Publications)

1. Kondo, Y., Fukushima, Y., Murakami, S., Okajima, K., Sugiyama, H., Hayashi, K., Matsubae, K., Matsuno, Y., Kakisawa, H., Motoshita, M., Nakajima, M., Nakajima, K., Itsubo, N., Shigetomi, Y. (2015) Report on the International Conference EcoBalance 2014, *Journal of Life Cycle Assessment, Japan*, 11, 198-206. (in Japanese)
2. Shigetomi, Y., Tadaka, H., Hienuki, S., Eguchi, S., Ito A., Okamoto, S. (2015) What should students learn

through LCA studies?: A report of the Discussion Meeting at the 6th ILCAJ-SCN Summer Workshop, *Journal of Life Cycle Assessment, Japan*, 11, 55-58. (in Japanese)

3. Okamoto, S., Shigetomi, Y., Hienuki, S., Tadaka, H., Ito A. (2014) History of Student Communication Network from the ILCAJ, *Journal of Life Cycle Assessment, Japan*, 10, 430-431. (in Japanese)

### Conference Presentations

1. Shigetomi, Y., Matsumoto, K., Ehara, T., Ochi, Y., Ogawa, Y., Shiraki, Y., Yamamoto, Y.: Identifying Drivers of Residential Energy-Related CO<sub>2</sub> Emissions in 47 Prefectures, *The 13th Meeting of The Institute of Life Cycle Assessment*, Tokyo, Japan, March 2018.
2. Chapman, A.J., Shigetomi, Y.: Generational Social Burden Issues due to Household Consumption, *The 13th Meeting of The Institute of Life Cycle Assessment*, Tokyo, Japan, March 2018.
3. Shigetomi, Y., Chapman, A.J.: Evaluation of social equity associated with household consumption from the life cycle perspective, *The 34th National Energy Systems, Economics & Environment Conference*, Tokyo, Japan, January 2018.
4. Shigetomi, Y., Nansai, K., Tohno, S.: How is carbon footprint of households affected by the Japan's new policy to raise birthrate and income? *The 8th International Conference on Industrial Ecology*, Chicago, USA, June 2017.
5. Shigetomi, Y., Nansai, K., Kagawa, S., Tohno, S.: Carbon footprint mitigation of Japanese households for achieving the Paris Agreement under the demographic and income scenarios, *The 25th International Input-Output Conference*, Atlanta, USA, June 2017.
6. Shigetomi, Y., Nansai, K., Kagawa, S., Tohno, S.: Agenda for achievement of the Paris Agreement on "A Society in Which All Citizens are Dynamically Engaged", *The 12th Meeting of The Institute of Life Cycle Assessment*, Kashiwa, Japan, March 2017.
7. Shigetomi, Y., Nansai, K., Tohno, S.: The trade-offs between carbon and critical metal footprints of Japanese households, *The 24th International Input-Output Conference*, Seoul, South Korea, July 2016.
8. Shigetomi, Y., Nansai, K., Kagawa, S., Kondo, Y., Tohno, S.: Future scenario analysis of global flow structures with a focus on critical metals, *The 11th Meeting of The Institute of Life Cycle Assessment*, Kashiwa, Japan, March 2016.
9. Shigetomi, Y., Nansai, K., Kagawa, S., Tohno, S.: Estimation of Global Flows of Critical Metals Using a Gravity Model, *Pan Pacific Association of Input-Output Studies: The 26th Conference*, Tokyo, Japan, October-November 2015.
10. Shigetomi, Y.: Household's carbon and material footprints in Japan – econometric approach for their future estimations. *International Workshop on Industrial Ecology*, Ohita, July 2015.
11. Shigetomi, Y., Nansai, K., Tohno, S.: Comparison between global carbon and material footprints of Japanese households, *The 10th Meeting of The Institute of Life Cycle Assessment*, Kobe, Japan, March 2015.
12. Shigetomi, Y., Nansai, K., Tohno, S.: Supply security footprint of critical metals related to household consumption, *The 11th International Society for Industrial Ecology Socio-Economic Metabolism section conference and the 4th ISIE Asia-Pacific conference*, Melbourne, Australia, November 2014.

13. Shigetomi, Y., Nansai, K., Tohno, S.: The impact of demographic change in Japan on supply security footprint of critical metals, *The 11th International Conference on EcoBalance*, Tsukuba, Japan, October 2014.
14. Shigetomi, Y., Nansai, K., Tohno, S.: Change in supply security footprints of critical metals induced by Japanese household consumption from 2005 to 2035, *The 22nd International Input-Output Conference*, Lisbon, Portugal, July 2014.
15. Shigetomi, Y., Nansai, K., Tohno, S.: The relationship between Japanese household consumption and international flow of rare metals, *The 9th Meeting of The Institute of Life Cycle Assessment*, Tokyo, Japan, March 2014.
16. Shigetomi, Y., Nansai, K., Tohno, S.: Forecast of Consumption-based GHG Emissions in Japan from the View Point of Household Consumption, *Pan Pacific International Input-Output Studies: The 24th Conference*, Nagoya, Japan, October 2013.
17. Shigetomi, Y., Nansai, K., Tohno, S.: Future projection of global greenhouse gas emissions associated with Japanese household consumption with a global link input-output model, *The 21st International Input-Output Conference*, Kitakyushu, Japan, July 2013.
18. Shigetomi, Y., Nansai, K., Tohno, S.: Estimate of Japanese global GHG emissions considering the future transition of household composition, *The 8th Meeting of The Institute of Life Cycle Assessment*, Shiga, Japan, March 2013.
19. Shigetomi, Y., Yuba, A., Sadanaga, Y., Takami, A., Hatakeyama, S., Uno, I., Kato, S., Kajii, Y., Takenaka, N., Bandow, H.: Yearly variations of the trans-boundary air pollutants by the long-term continuous measurements at Cape Hedo, Okinawa, *Japan Society for Atmospheric Environment, The 52th Annual Conference*, Nagasaki, Japan, September 2011.
20. Shigetomi, Y., Yuba, A., Sadanaga, Y., Takami, A., Hatakeyama, S., Uno, I., Kato, S., Kajii, Y., Takenaka, N., Bandow, H.: Analysis of the trans-boundary air pollution derived from East Asia by the long-term continuous measurements of NO<sub>y</sub> and HNO<sub>3</sub> at Cape Hedo, Okinawa, *The Chemical Society of Japan, The 91th Annual Conference*, Kanagawa, Japan, March 2011.

### Poster Presentations

1. Shigetomi, Y., Matsumoto, K., Yamamoto, Y., Ehara, T., Ochi, Y., Ogawa, Y., Shiraki, H. Influence of regional socio-economic drivers on residential CO<sub>2</sub> emissions in Japan, *The 41st IAEE International Conference*, Groningen, June 2018.
2. Matsumoto, K., Shigetomi, Y., Ehara, T., Ochi, Y., Ogawa, Y., Shiraki, H., Yamamoto, Y. Addressing the key drivers of regional energy consumption of the manufacturing industry in Japan, *The 8th International Conference on Life Cycle Management*, Luxemburg, September 2017.
3. Shigetomi, Y.: Promotion of household social policies with adoption of the Paris Agreement in Japan, *The 12th EcoBalance International Conference*, Kyoto, Japan, October 2016.
4. Shigetomi, Y., Nansai, K., Kagawa, S., Kondo, Y., Tohno, S.: Future scenario analysis of global flow structures with a focus on critical metals, *The 11th Meeting of The Institute of Life Cycle Assessment*, Kashiwa, Japan, March 2016.

5. Eguchi, S., Shigetomi, Y., Tadaka, H., Tamura K., Yokoi, S., Ito, R.: ILCAJ-Student Communication Network Activity Report 2015, *The 11th Meeting of The Institute of Life Cycle Assessment*, Kobe, Japan, March 2015.
6. Shigetomi, Y., Nansai, K., Tohno, S.: Finding common features of material footprints for critical metals and carbon footprint with Japanese household consumption, *The 7th International Conference on Life Cycle Management*, Bordeaux, France, August-September 2015.
7. Shigetomi, Y., Nansai, K., Tohno, S.: Comparison between global carbon and material footprints of Japanese households, *The 10th Meeting of The Institute of Life Cycle Assessment*, Kobe, Japan, March 2015.
8. Shigetomi, Y., Tadaka, H., Ito A., Hienuki, S., Eguchi, S., Okamoto, S.: ILCAJ-Student Communication Network Activity Report 2014, *The 10th Meeting of The Institute of Life Cycle Assessment*, Kobe, Japan, March 2015.
9. Shigetomi, Y., Nansai, K., Tohno, S.: The relationship between Japanese household consumption and international flow of rare metals, *The 9th Meeting of The Institute of Life Cycle Assessment*, Tokyo, Japan, March 2014.
10. Shigetomi, Y., Nansai, K., Tohno, S.: Environmental footprints of households from the viewpoint of an aging society with fewer children, *SETAC Europe 19th LCA case study symposium*, Rome, Italy, November 2013.
11. Shigetomi, Y., Nansai, K., Tohno, S.: Change in consumption-based greenhouse gas emissions and energy consumptions from households associated with the future transition of household composition in Japan, *The 6th International Conference on Industrial Ecology*, Ulsan, South Korea, June 2013.
12. Shigetomi, Y., Nansai, K., Tohno, S.: Estimate of Japanese global GHG emissions considering the future transition of household composition, *The 8th Meeting of The Institute of Life Cycle Assessment*, Shiga, Japan, March 2013.

### Awards

1. Best Student Poster Presentation Award, 10th Conference of the Institute of Life Cycle Assessment, Japan, March 2015.
2. Best Student Poster Presentation Award, 9th Conference of the Institute of Life Cycle Assessment, Japan, March 2014.

### Skills

Programming skills: Matlab (for geometric operations, generalized linear models), Express (for mathematical programming)

Languages: Japanese (native), English (professional proficiency)

Software: Matlab; Express; STATA, EViews; Microsoft Office including Word, Excel and PowerPoint

### Professional organizations

International Input-Output Association, International Society for Industrial Ecology, Institute of Life Cycle

Assessment Japan, Pan Pacific Association of Input-Output Studies

## Grant

1. Grant-in-Aid for Japan Society for Research Activity Start-up (18K18231), Principal Investigator, JPY 3,300,000, 2018-2021.
2. Asahi Glass Foundation, Humanity Research, Principal Investigator, JPY1,000,000, 2018-2020.
3. Kyushu University QR Program New Wakaba Challenge, Co-Investigator, JPY1,050,000, 2017-2018.
4. Grant-in-Aid for Japan Society for Research Activity Start-up (16H07072), Principal Investigator, JPY 2,300,000, 2016-2018.
5. Grant-in-Aid for Japan Society for the Promotion Science Fellows (No. 26 • 4971), Principal Investigator, JPY 2,200,000, 2014-2016.

## Teaching

- International Environment Studies II, Faculty of Environmental Science, Nagasaki University, 2016-Present
- Seminar on Environmental System, Faculty of Environmental Science, Nagasaki University, 2016-Present
- Seminar on Fundamental Environmental System, Faculty of Environmental Science, Nagasaki University, 2016-Present
- Introduction to Environmental Science, Faculty of Environmental Science, Nagasaki University, 2016-Present
- Resources Management Studies, Faculty of Environmental Science, Nagasaki University, 2016-Present
- Environmental Economics, Graduate School of Fisheries and Environmental Sciences, Nagasaki University, 2016-Present

## Refereeing Activities

*Journal of Industrial Ecology, Resources, Conservation & Recycling, Resources Policy, International Journal of Energy Research, Journal of Material Cycles and Waste Management, Energies, Sustainability, Journal of Economic Structures, Journal of Life Cycle Assessment, Japan, Journal of Environmental Science*

## References

- Keisuke Nansai  
Laboratory Head, International Material Cycles Research Section, Center for Material Cycles and Waste Management Research, National Institute for Environmental Studies, Japan  
nansai.keisuke@nies.go.jp  
16-2 Onogawa, Tsukuba, Ibaraki, Japan 305-8506
- Susumu Tohno  
Professor, Department of Energy Socio-Environmental Science, Graduate School of Energy Science, Kyoto University, Japan

Yosuke Shigetomi

*Curriculum Vitae*

tohno@energy.kyoto-u.ac.jp

Yoshida-honmachi, Sakyo-ku, Kyoto, Japan 606-8501

- Shigemi Kagawa

Professor, Department of International Economy and Business, Faculty of Economics, Kyushu University,  
Japan

kagawa@econ.kyushu-u.ac.jp

6-19-1 Hakozaki, Higashi-ku, Fukuoka, Japan 812-8581