

Curriculum Vitae

Youhei Yamashita (PhD)
Hokkaido University
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Education:

2002-2004

Nagoya University, Japan. Ph.D. in science under the direction of Dr. Eiichiro Tanoue.

2000-2002

Nagoya University, Japan. M.Sc. in science under the direction of Dr. Eiichiro Tanoue.

1996-2000

Meiji University, Japan. B.A. in agriculture under the direction of Dr. Kazushige Nakabayashi.

Work Experience:

2009-present

Hokkaido University, **Associate Professor** Faculty in Environmental Earth Science

2007-2009

Florida International University, **Post Doctoral Research Scientist** Southeast Environmental Research Center & Department of Chemistry.

2006-2007

Nagoya University, **Researcher** Graduate School of Environmental Studies.

2004-2006

Nagoya University, **JSPS (Japanese Society for the Promotion of Science) Post Doctoral Research Fellow** Graduate School of Environmental Studies.

Awards:

- 2002-2004 Scholarship of the Mitsubishi Trust Yamamuro Memorial Scholarship Foundation (JAPAN)
- 2003-2004 Research Assistant of the 21st Century COE Program, Nagoya University
- 2004 JSPS (Japanese Society for the Promotion of Science) Doctoral Research Fellow
- 2005 The Japanese Association of Organic Geochemists, Award for Young Researcher
- 2009 The Oceanographic Society of Japan, the Okada Prize (award to a young member of the Society who has made outstanding contributions to progress of oceanography)
- 2015 Hokkaido University, the Presidents' Research Award

Publications:

- Fujiyoshi, L., A. Sugimoto, **Y. Yamashita**, and X. Li (2019) Influence of soil N availability on the difference between tree foliage and soil $\delta^{15}\text{N}$ from comparison of Mongolia and northern Japan. *Ecological Indicators*, 101, 1086-1093.
- Miyazaki, Y., **Y. Yamashita**, K. Kawana, E. Tachibana, S. Kagami, M. Mochida, K. Suzuki, and J. Nishioka (2018) Chemical transfer of dissolved organic matter from surface seawater to sea spray water-soluble organic aerosol in the marine atmosphere. *Scientific Reports*, 8, 14861.
- Plancq, J., J.L. McColl, J.A. Bendle, O. Seki, J.M. Couto, A.C.G. Henderson, **Y. Yamashita**, K. Kawamura, and J.L. Toney (2018) Genomic identification of the long-chain alkenone producer in freshwater Lake Toyoni, Japan: implications for temperature reconstructions. *Organic Geochemistry*, 125, 189-195.
- Mizuno, Y.**, J. Nishioka, T. Tanaka, Y. Tada, K. Suzuki, Y. Tsuzuki, A. Sugimoto, and **Y. Yamashita** (2018) Determination of the freshwater origin of Coastal Oyashio Water using humic-like fluorescence in dissolved organic matter. *Journal of Oceanography*, 74, 509-521.
- Tada, Y., R. Nakaya, **S. Goto**, **Y. Yamashita**, and K. Suzuki (2017) Distinct bacterial community and diversity shifts after phytoplankton-derived dissolved organic matter addition in a coastal environment. *Journal of Experimental Marine Biology and Ecology*, 495, 119-128.
- Nakane, M.**, **T. Ajioka**, and **Y. Yamashita** (2017) Distribution and sources of dissolved black carbon in surface waters of the Chukchi Sea, Bering Sea, and the North Pacific Ocean. *Frontiers in Earth Science*, 5, 34.
- Yamashita, Y.**, F. Hashihama, H. Saito, H. Fukuda, and H. Ogawa (2017) Factors controlling the geographical distribution of fluorescent dissolved organic matter in the surface waters of the Pacific Ocean. *Limnology and Oceanography*, 62, 2360-2374.
- Goto, S.**, Y. Tada, K. Suzuki, and **Y. Yamashita** (2017) Production and reutilization of fluorescent dissolved organic matter by a marine bacterial strain, *Alteromonas macleodii*. *Frontiers in Microbiology*, 8, 507.
- Nosaka, Y., **Y. Yamashita**, and K. Suzuki (2017) Dynamics and origin of transparent exopolymer particles in the Oyashio region of the western subarctic Pacific during the spring diatom bloom. *Frontiers in Marine Science*, 4, 79.
- Tanaka, K.**, N. Takesue, J. Nishioka, Y. Kondo, A. Ooki, K. Kuma, T. Hirawake, and **Y. Yamashita** (2016) The conservative behavior of dissolved organic carbon in surface waters of the southern Chukchi Sea, Arctic Ocean, during early summer. *Scientific Reports*, 6, 34123.
- Lu, C.-J., R. Benner, C.G. Fichot, H. Fukuda, **Y. Yamashita**, and H. Ogawa (2016) Sources and transformations of dissolved lignin phenols and chromophoric dissolved organic matter in Otsuchi Bay, Japan. *Frontiers in Marine Science*, 3, 85.
- Yamashita, Y.**, C.G. Fichot, Y. Shen, R. Jaffé, and R. Benner (2015) Linkages among fluorescent dissolved organic matter, dissolved amino acids and lignin-derived phenols in a river-influenced ocean margin. *Frontiers in Marine Science*, 2, 92.

- Yamashita, Y.**, C.-J. Lu, H. Ogawa, J. Nishioka, H. Obata, and H. Saito (2015) Application of in situ fluorometer to determine the distribution of fluorescent dissolved organic matter in the open ocean. *Marine Chemistry*, 177, 298-305.
- Fu, P., K. Kawamura, J. Chen, M. Qin, L. Ren, Y. Sun, Z. Wang, L. Barrie, E. Tachibana, A. Ding, and **Y. Yamashita** (2015) Fluorescent water-soluble organic aerosols in the High Arctic atmosphere. *Scientific Reports*, 5, 9845.
- Yamashita, Y.**, L.S. McCallister, B.P. Koch, M. Gonsior, and R. Jaffé (2015) Dynamics of dissolved organic matter in fjord ecosystems: Contributions of terrestrial dissolved organic matter in the deep layer. *Estuarine, Coastal and Shelf Science*, 159, 37-49.
- Lu, Y., J.W. Edmonds, **Y. Yamashita**, B. Zhou, A. Jaegge, and M. Baxley (2015) Spatial Variation in the Origin and Reactivity of Dissolved Organic Matter in Oregon-Washington Coastal Waters. *Ocean Dynamics*, 65, 17-32.
- Ding, Y., **Y. Yamashita**, J. Jones, and R. Jaffé (2015) Dissolved black carbon in boreal forest and glacial rivers of central Alaska: Assessment of biomass burning vs. anthropogenic sources. *Biogeochemistry*, 123, 15-25.
- Hioki, N., K. Kuma, Y. Morita, R. Sasayama, A. Ooki, Y. Kondo, H. Obata, J. Nishioka, **Y. Yamashita**, S. Nishino, T. Kikuchi, and M. Aoyama (2014) Laterally spreading iron, humic-like dissolved organic matter and nutrients in cold, dense subsurface water of the Arctic Ocean. *Scientific Reports*, 4, 6775.
- Tanaka, K.**, K. Kuma, K. Hamasaki, and **Y. Yamashita** (2014) Accumulation of humic-like fluorescent dissolved organic matter in the Japan Sea. *Scientific Reports*, 4, 5292.
- Maie, N., S. Sekiguchi, A. Watanabe, K. Tsutsuki, **Y. Yamashita**, L. Melling, K. Cawley, E. Shima, R. Jaffé (2014) Dissolved organic matter dynamics in the oligo/meso-haline zone of wetland-influenced coastal rivers. *Journal of Sea Research*, 91, 58-69.
- Lu, Y., J.E. Bauer, E.A. Canuel, R.M. Chambers, **Y. Yamashita**, R. Jaffé, and A. Barrett (2014) Effects of land use on sources and ages of inorganic and organic carbon in temperate headwater streams. *Biogeochemistry*, 119, 275-292.
- Romera-Castillo, C., M. Chen, **Y. Yamashita**, and R. Jaffé (2014) Fluorescence characteristics of size-fractionated dissolved organic matter: Implications for a molecular assembly based structure? *Water Research*, 55, 40-51.
- Cawley, K.M., **Y. Yamashita**, N. Maie, and R. Jaffé (2014) Using Optical Properties to Quantify Fringe Mangrove Inputs to the Dissolved Organic Matter (DOM) Pool in a Subtropical Estuary. *Estuaries and Coasts*, 37, 399-410.
- Yamashita, Y.**, Y. Nosaka, K. Suzuki, H. Ogawa, K. Takahashi, and H. Saito (2013) Photobleaching as a factor controlling spectral characteristics of chromophoric dissolved organic matter in open ocean. *Biogeosciences*, 10, 7207-7217.
- Yamashita, Y.**, J.N. Boyer, and R. Jaffé (2013) Evaluating the distribution of terrestrial dissolved organic matter in a complex coastal ecosystem using fluorescence spectroscopy. *Continental Shelf Research*, 66, 136-144.

- Kanda, J., M. Ishii, H. Ogawa, T. Ono, H. Obata, M. Yamamoto-Kawai, M. Suzumura, M.C. Honda, **Y. Yamashita**, Y.W. Watanabe (2013) Decadal Vision in Oceanography (II) -Discussions in the chemical oceanography subgroup of the future planning committee, The Oceanographic Society of Japan- *Oceanography in Japan*, 22, 219-251. (Japanese with English abstract)
- Lu, Y., J.E. Bauer, E.A. Canuel, **Y. Yamashita**, R.M. Chambers, and R. Jaffé (2013) Photochemical and microbial alteration of dissolved organic matter in temperate headwater streams associated with different land use. *Journal of Geophysical Research: Biogeosciences*, 118, 566–580.
- Ding, Y., **Y. Yamashita**, W.K. Dodds, and R. Jaffé (2013) Dissolved black carbon in grassland streams: Is there an effect of recent fire history? *Chemosphere*, 90, 2557–2562.
- Jaffé, R., **Y. Yamashita**, N. Maie, W.T. Cooper, T. Dittmar, W.K. Dodds, J.B. Jones, T. Myoshi, J.R. Ortiz-Zayas, D.C. Podgorski, and A. Watanabe (2012) Dissolved organic matter in headwater streams: Compositional variability across climatic regions of North America. *Geochimica Cosmochimica Acta*, 94, 95-108.
- Maie, N., **Y. Yamashita**, R.M. Cory, J.N. Boyer, R. Jaffé (2012) Application of excitation emission matrix fluorescence monitoring in the assessment of spatial and seasonal drivers of dissolved organic matter composition: Sources and physical disturbance controls. *Applied Geochemistry*, 27 917-929.
- Yamashita, Y.**, B.D. Kloeppel, J. Knoepp, G.L. Zausen, and R. Jaffé (2011) Effects of watershed history on dissolved organic matter characteristics in headwater streams. *Ecosystems*, 14, 1110-1122.
- Pisani, O., **Y. Yamashita**, and R. Jaffé (2011) Photo-dissolution of flocculent, detrital material in aquatic environments: Contributions to the dissolved organic matter pool. *Water Research*, 45, 3836-3844.
- Yamashita, Y.**, A. Panton, C. Mahaffey and R. Jaffé (2011) Assessing the spatial and temporal variability of dissolved organic matter in Liverpool Bay using excitation–emission matrix fluorescence and parallel factor analysis. *Ocean Dynamics*, 61, 569-579.
- Shank, G.C., A. Evans, **Y. Yamashita** and R. Jaffé (2011) Solar radiation-enhanced dissolution of particulate organic matter from coastal marine sediments. *Limnology and Oceanography*, 56, 577-588.
- Yamashita, Y.**, L.J. Scinto, N. Maie, and R. Jaffé (2010) Dissolved organic matter characteristics across a subtropical wetland’s landscape: application of optical properties in the assessment of environmental dynamics. *Ecosystems*, 13, 1006-1019.
- Yamashita, Y.**, R. M. Cory, J. Nishioka, K. Kuma, E. Tanoue and R. Jaffé (2010) Fluorescence characteristics of dissolved organic matter in the deep waters of the Okhotsk Sea and the northwestern North Pacific Ocean. *Deep-Sea Research Part II*, 57, 1478-1488.
- Nagata, T., C. Tamburini, J. Arístegui, F. Baltar, A. Bochdansky, S. Fonda-Umani, H. Fukuda, A. Gogou, D.A. Hansell, R.L. Hansman, G.J. Herndl, C. Panagiotopoulos, T. Reinthaler, R. Sohrin, P. Verdugo, N. Yamada, **Y. Yamashita**, T. Yokokawa and D. H. Bartlett (2010) Emerging concepts on microbial processes in the bathypelagic ocean – ecology, biogeochemistry, and genomics. *Deep-Sea Research Part II*, 57, 1519-1536.
- Chen, M., R.M. Price, **Y. Yamashita** and R. Jaffé (2010) Comparative study of dissolved organic matter from groundwater and surface water in the Florida coastal Everglades using multi-dimensional spectrofluorometry combined with multivariate statistics. *Applied Geochemistry*, 25, 872-880.

- Williams, C.J., **Y. Yamashita**, H. F. Wilson, R. Jaffé and M. A. Xenopoulos (2010) Unraveling the role of land use and microbial activity in shaping dissolved organic matter characteristics in stream ecosystems. *Limnology and Oceanography* 55: 1159-1171.
- Yamashita, Y.**, N. Maie, H. Briceño and R. Jaffé (2010) Optical characterization of dissolved organic matter in tropical rivers of the Guayana Shield, Venezuela. *Journal of Geophysical Research* 105: G00F10.
- Yamashita, Y.** (2010) Studies on characteristics and dynamics of chromophoric dissolved organic matter (CDOM) in the ocean. *Oceanography in Japan* 19: 41-56. (Japanese with English abstract)
- Santín, C., **Y. Yamashita**, X.L. Otero, M.Á. Álvarez and R. Jaffé (2009) Characterizing humic substances from estuarine soils and sediments by excitation-emission matrix spectroscopy and parallel factor analysis. *Biogeochemistry* 69: 131-147.
- Yamashita, Y.** and E. Tanoue (2009) Basin scale distribution of chromophoric dissolved organic matter in the Pacific Ocean. *Limnology and Oceanography* 54: 598-609.
- Yamashita, Y.** and R. Jaffé (2008) Characterizing the interactions between trace metal and dissolved organic matter using excitation-emission matrix and parallel factor analysis. *Environmental Science and Technology* 42: 7374-7379.
- Yamashita, Y.** and E. Tanoue (2008) Production of bio-refractory fluorescent dissolved organic matter in the ocean interior. *Nature Geoscience* 1: 579-582.
- Yamashita, Y.**, R. Jaffé, N. Maie and E. Tanoue (2008) Assessing the dynamics of dissolved organic matter (DOM) in coastal environments by excitation emission matrix fluorescence and parallel factor analysis (EEM-PARAFAC). *Limnology and Oceanography* 53: 1900-1908.
- Yamashita, Y.**, A. Tsukasaki, T. Nishida and E. Tanoue (2007) Distribution of chromophoric dissolved organic matter in the Southern Ocean. *Marine Chemistry* 106: 498-509.
- Yamashita, Y.** and E. Tanoue (2006) Quantitative and qualitative characteristics of chromophoric dissolved organic matter in Pacific subarctic and subtropical surface waters. *Research in Organic Geochemistry* 21: 13-22.
- Yamashita, Y.** and E. Tanoue (2004) In situ production of chromophoric dissolved organic matter in coastal environments. *Geophysical Research Letters* 31: L14302.
- Yamashita, Y.** and E. Tanoue (2004) Chemical characteristics of amino acid-containing dissolved organic matter in seawater. *Organic Geochemistry* 35: 679-692.
- Takata, H., K. Kuma, S. Iwade, Y. Yamajyoh, A. Yamaguchi, S. Takagi, K. Sasaoka, **Y. Yamashita**, E. Tanoue, T. Midorikawa, K. Kimura and J. Nishioka (2004) Source of Fe(III)-complexing organic ligands in the surface water of the northwestern North Pacific Ocean. *Marine Chemistry* 86: 139-157.
- Tani, H., J. Nishioka, K. Kuma, H. Takata, **Y. Yamashita**, E. Tanoue and T. Midorikawa (2003) Iron (III) hydroxide solubility and humic-type fluorescent organic matter in the deep water column of the Okhotsk Sea and the northwestern North Pacific Ocean. *Deep Sea Research Part I* 50: 1063-1078.
- Yamashita, Y.** and E. Tanoue (2003) Chemical characterization of protein-like fluorophores in DOM in relation to aromatic amino acids *Marine Chemistry* 82: 255-271.

Yamashita, Y. and E. Tanoue (2003) Distribution and alteration of amino acids in bulk DOM along a transect from bay to oceanic waters. *Marine Chemistry* 82: 145-160.

Tanaka, G., **Y. Yamashita** and K. Nakabayashi (2001) Effect of Supersaturation of Dissolved Oxygen on the Growth of Tomato Plants and Nutrient Uptake in Hydroponic Culture. *Shokubutsu Kojo Gakkaishi* 13: 21-28. (Japanese with English abstract)

Professional service:

- Limnology: Associate Editor (April, 2013 – December, 2016)
- Scientific Reports: Editorial Board Member (May, 2015 – present)
- Peer review for scientific journal articles: *Applied Geochemistry, Aquatic Ecology, Aquatic Microbial Ecology, Aquatic Sciences, Biogeochemistry, Biogeosciences, Chemosphere, Continental Shelf Research, Deep Sea Research Part I, Ecological Research, Environmental Chemistry Letters, Environmental Microbiology, Environmental Pollution, Environmental Science and Technology, Frontiers in Earth Science, Fundamental and Applied Limnology, Geochemical Journal, Geochimica et Cosmochimica Acta, Global Biogeochemical Cycles, Humic Substances Research, Hydrobiologia, Inland Waters, Journal of Environmental Quality, Journal of Geophysical Research, Journal of Marine Systems, Journal of Oceanography, Journal of Soils and Sediments, Limnology, Limnology and Oceanography, Marine Chemistry, Marine Ecology Progress Series, Nature Communications, Nature Geoscience, Progress in Oceanography, PLOS ONE, Science of the Total Environment, Scientific Reports, Water Research*
- Peer review for grant proposals: *NSF Chemical Oceanography (USA), Water Resources Research Institute of The University of North Carolina (USA), NERC (UK), Veni scheme, NWO (Netherlands)*

Field and cruise experience:

2019: Akkeshi Bay, Misago-maru, Hokkaido University
2019: Western North Pacific, T/S Oshoro-maru (C073), Hokkaido University
2018: Western North Pacific and Bering Sea, R/V Prof. Multanovskiy, FERHRI
2017: Subtropical North Pacific, R/V Hakuho-maru (KS-17-4), JAMSTEC
2016: Subtropical western North Pacific, R/V Shinsei-maru (KS-16-9), JAMSTEC
2015: Kuroshio region, R/V Hakuho-maru (KH-15-4), JAMSTEC
2015: Oyashio and Coastal Oyashio regions, R/V Hakuho-maru (KH-15-1), JAMSTEC
2014: Akkeshi Bay, Misago-maru, Hokkaido University
2014: Central North Pacific, Bering Sea, Chukchi Sea, R/V Hakuho-maru (KH-14-3), JAMSTEC
2014: East kamuchatska Current and Kuril Island region, R/V Prof. Multanovskiy, FERHRI
2014: Central South Pacific, R/V Hakuho-maru (KH-13-7), JAMSTEC
2013: Western North Pacific, R/V Shinsei-maru (KS-13-T3), JAMSTEC
2013: Chukchi Sea and Bering Sea, T/S Oshoro-maru (C255), Hokkaido University
2012: Subtropical to subarctic North Pacific, R/V Hakuho-maru (KH-12-3), JAMSTEC
2011: Indigirka River, Eastern Siberia, Russia
2011-2013: Uryuu Experimental Forests, Hokkaido, University, Hokkaido, Japan
2011: Subarctic western North Pacific, R/V Tansei-maru (KT-11-7), JAMSTEC
2010-: Tomakomai Experimental Forests, Hokkaido, University, Hokkaido, Japan
2010-2013: Lake Toyoni, Hokkaido, Japan
2010: Subarctic western North Pacific, FR/V Wakataka-maru (WK0006), FRA
2009: Bonanza Creek-LTER site and Tanana River, Alaska, USA
2009: Konza Prairie-LTER site, Kansas, USA
2008-2009: Coweeta-LTER site, North Carolina, USA

2007-2011: Florida Coastal Everglades-LTER site, Florida, USA
2006: Sagami Bay and subtropical western North Pacific, R/V Tansei-maru (KT-06-28), JAMSTEC
2005: Equatorial to subarctic North Pacific, R/V Hakuho-maru (KH-05-2), JAMSTEC
2004: Subtropical South Pacific to equatorial Pacific, R/V Hakuho-maru (KH-04-5), JAMSTEC
2004: Lake Biwa and catchments, R/V Hakken-go, Lake Biwa Research Institute, Shiga, Japan
2004: Ise Bay, T/S Seisui-maru (SE-04-22), Mie University
2003: Subtropical and subarctic North Pacific, R/V Hakuho-maru (KH-03-2), University of Tokyo
2003: Ise Bay, T/S Seisui-maru (SE-03-12), Mie University
2002: Sagami Bay and subtropical western North Pacific, R/V Tansei-maru (KT-02-10), University of Tokyo
2002: Otsuchi Bay and its catchments, International Coastal Research Center, University of Tokyo, Iwate, Japan
2001: Ise Bay to off the Kuroshio Current, R/V Tansei-maru (KT-01-17), Mie University
2001: Ise Bay to off the Kuroshio Current, T/S Seisui-maru (SE-01-02), Mie University
2000: Ise Bay to off the Kuroshio Current, R/V Tansei-maru (KT-00-13), University of Tokyo
2000: Sagami Bay and subtropical western North Pacific, R/V Tansei-maru (KT-00-12), University of Tokyo
2000: Ise Bay to off the Kuroshio Current, T/S Seisui-maru (SE-00-06), Mie University