

CURRICULUM VITAE

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大学院農学生命科学研究科水圏生物科学専攻
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研究テーマ

私は、海洋生態系の動態と生物地球化学循環に果たす海洋生物の役割について、プランクトンを中心に研究しています。研究テーマの一つは、珪藻、渦鞭毛虫、カイアシ類、魚類稚仔の生物学と生態学であり、また、それらの自然要因および人為要因による環境変動に対する応答の研究を行っています。もう一つのテーマは海洋生物の生物地球化学循環に果たす役割であり、特に、炭素、窒素、リン、ケイ素、鉄の消費と循環に関する研究を行っています。

我々の社会は、海洋生態系からの様々な恵み、すなわち海洋生態系サービスの安定的な供給を前提に構築されています。人為起源の環境変動は、生態系サービスの劣化を引き起こし、社会の持続的発展や人々の幸福な生活の脅威となっています。海洋生態系の変動機構を把握し、その将来を予測し、持続的な生態系サービスの利用を実現するには、海洋物理学、生物地球化学、生物海洋学、社会科学等様々な学術分野で得られる知見の統合が必須です。私は海洋生態系の変動のメカニズムを明らかにし、持続的な海洋生態系サービスの利用を実現するために必要な道筋を示すために、他の科学者と共に超学際研究を進めています。

学歴

1982年3月 福島県立福島高校卒業
1986年3月 東北大学農学部卒業
1987年3月 東北大学大学院農学研究科中退

学位

1986年3月 農学士、東北大学農学部
1996年2月 博士（農学）、東北大学

受賞歴

- 1998年4月 日本海洋学会岡田賞
1999年9月 水産海洋学会論文賞（共著者）
2003年3月 日本プランクトン学会論文賞（共著者）
2007年3月 日本海洋学会日高論文賞（共著者）
2008年4月 日本海洋学会日高論文賞（共著者）
2019年10月 Wooster Award, North Pacific Marine Science Organization（北太平洋科学機関）

職歴

- 2019- 東京大学大気海洋研究所所長補佐
2016 - 東京大学 大気海洋研究所 国際連携研究センター国際協力分野 教授
2014 - 2016 東京大学 大気海洋研究所 浮遊生物分野 准教授
2011 - 2014 独立行政法人水産総合研究センター・東北区水産研究所資源海洋部・生態系動態グループ長
2010 - 2011 長崎大学大学院非常勤講師
2007 - 2008 東京大学客員准教授（海洋研究所附属海洋科学国際共同研究センター）
2004 国立大学法人静岡大学非常勤講師（理学部）
2001 - 2011 独立行政法人水産総合研究センター・東北区水産研究所混合域海洋環境部・生物環境研究室長
1998 - 2001 北海道区水産研究所亜寒帯海洋環境部主任研究官
1998 - 1999 デンマーク水産研究所客員研究員
1994 - 2001 北海道大学低温研究所附属流水研究施設共同研究員
1992 - 1998 国立極地研究所共同研究員
1997 - 1998 北海道区水産研究所海洋環境部主任研究官
1990 - 1997 北海道区水産研究所海洋環境部研究員
1987 - 1990 北海道区水産研究所資源部研究員

参加学会

- 日本海洋学会
水産海洋学会
日本プランクトン学会
日本地球惑星科学連合
先進陸水海洋学会

アメリカ地球物理学連合

学会活動等

- 2018-2023 日本学術会議連携会員
2018-2020 日本学術会議IMBeR小委員会委員長
2018-2020 日本学術会議IIOE-2小委員会委員
2015-2020 日本学術会議SIMSEA小委員会委員
2015- 水産海洋学会評議員
2015- 2019 日本海洋学会幹事
2013- 日本海洋学会評議員
2012-2014 日本海洋学会将来構想委員会委員
2011-2014 日本海洋学会沿岸事業部会委員
2011-2013, 2014-2017, 2019-2021 日本海洋学会論文賞受賞候補者選考委員会委員
2009-2017 日本学術会議IMBER小委員会委員
2007-2013 日本水産海洋学会国際誌委員会委員
2007-2008 日本学術会議特任連携会員（環境学委員会・地球惑星科学委員会合同
IGBP・WCRP合同分科会）
2004-2008 日本学術会議IMBER小委員会委員長
2003-2005 日本学術会議地球環境研究連絡委員会委員、IGBP専門委員会委員

学術雑誌編集活動

- 2021- Associate Editor for Marine Biogeochemistry (specialty section of
Frontiers in Marine Science, Frontiers in Earth Science and Frontiers
in Chemistry)
2020- Guest Associate Editor in Coastal Ocean Processes, Frontier in
Marine Science (Topic Section: Oceanographic Processes Linking
Nearshore, Continental Shelf, and Shelf Break)
2019 Editor. Kuroshio Current: Physical, Biogeochemical, and Ecosystem
Dynamics (Geophysical Monograph Series, AGU) ISBN-13: 978-
1119428343
2019 Guest Editor, Philippine Journal of Natural Sciences
2016 Guest editor of the Special Issue “Study of change in ecosystem and
material cycle caused by climate change and its feedback in the
western North Pacific”, Journal of Oceanography
2014 - Review Editor, Frontiers in Marine Science

2011-2019 Editor, Journal of Oceanography
 2009 Guest Editors. Deep-Sea Research Part II. SEEDS II: The Second Subarctic Pacific Iron Experiment for Ecosystem Dynamics Study.
 2007-2013 Editorial board, Fisheries Oceanography
 2005-2011 Editor, Plankton and Benthos Research (Plankton Biology and Ecology until 2005)
 2003- 2010 Associate editor, Progress in Oceanography.

国際活動

2019-2021 Scientific Advisory Committee of the Fifth Xiamen Symposium on Marine Environmental Sciences
 2019 Convenor, International Workshop on the Emergent Issues of Marine Ecosystems in the Southeast Asia: For Sustainable Use of Marine Ecosystem Services (Sep 5-7, 2019, Kashiwa, Japan)
 2017-2019 Project Coordinator, JSPS Core-to-core RENSEA program
 2017- Member, NPOCE SSC, CLIVAR Pacific Panel
 2016-2019 Chairman, PICES Science Board
 2015-2016 Cochairman, PICES FUTURE SSC
 2013-2016 Vice Chairman, PICES Science Board
 2013-2014 Member, NPAFC-PICES Study Group on Scientific Cooperation in the North Pacific Ocean
 2010-2012 Member, ICES/PICES Joint Study Group on "Developing a Framework for Scientific Cooperation in Northern Hemisphere Marine Science"
 2009-2019 PICES Science Board
 2009-2014 Chair of FUTURE Advisory Panel on Climate, Oceanographic Variability and Ecosystems, PICES
 2009-2015 Member, PICES BIO Committee
 2008-2010 Member, Working Group 22 (Iron supply and its impact on biogeochemistry and ecosystems in the North Pacific Ocean), PICES
 2008- 2009 Cochairman, Future Implementation Plan Writing Team, PICES
 2007-2008 Member, FISP Writing Team, PICES
 2005-2009 Member, Study Group on Future Integrative Scientific Programs, PICES
 2004 -2008 Member, IFEP Advisory Panel, PICES
 2004-2008 Member, IGBP/SCOR IMBER SSC

2002 -2004 Member, IGBP/SCOR Ocean Biogeochemistry and Ecosystems
Transition Team

2001-2005 Member, PICES Model Task Team

国際学会・会議での招待講演、議長等

2020年3月 Organizer of International Symposium “Fukushima Dai-ichi and the
Ocean: 10 years of study and insight” (Tokyo and Woods Hole, on
line)

2021年1月 Scientific Advisory Committee of the Fifth Xiamen Symposium on
Marine Environmental Sciences (Xiamen, on site and on line)

2020年11月 Keynote talk: talk “Sustainable use of marine ecosystem services
based on scientific understanding of marine physical, chemical and
biological dynamics”. International Conference on the Ocean and Earth
Sciences 2020, Jakarta (on line) (Nov 18, 2020)

2019年9月 Convenor, International Workshop on Emergent Issues of Marine
Ecosystems in the Southeast Asia: For Sustainable Use of Marine
Ecosystem Services, Kashiwa, Japan, Sep. 5-7, 2019.

2019年9月 Introductory Keynote: Developing international science network for
sustainable use of marine ecosystem services in the Southeast Asia.
In: International Workshop on Emergent Issues of Marine Ecosystems
in the Southeast Asia: For Sustainable Use of Marine Ecosystem
Services, Kashiwa, Japan, Sep. 5-7, 2019.

2019年8月 Invited talk: Hiroaki Saito, Characteristics of the microbial food web
the Indian Ocean. In: Workshop Bio-physical oceanic variability in the
Indian Ocean variability and its impact on ecosystem in the maritime
continent. Palembang, 5 Aug., 2019

2019年7月 Co-convenor on Working Group V: A Sustainably harvested and
productive ocean. In: Regional Planning Workshop for the North Pacific
and Western Pacific Marginal Seas. Tokyo, Japan, 31 July-Aug 2, 2019

2018年9月 日中韓IMBeRシンポジウム Keynote speech The history of Kuroshio
studies, the progress and emerging issues.

2012年11月 Japan-Taiwan Cooperated Research Network Programme: Synthesis of
observation, experiment, theory and analysis on the forecasting
ecosystem responses to the climate change. Invited talk. 26 Nov 2012,
Sapporo, Japan.

- 2012年10月 PICES 2012 Annual Meeting. Invited talk at the Science Board Symposium on Effects of natural and anthropogenic stressors in the North Pacific ecosystems: Scientific challenges and possible solutions. “Marine ecosystem responses to sporadic perturbation: their processes, social impact and possible solutions” 15 October, 2012, Hiroshima, Japan.
- 2012年5月 Convenor, The 2nd International Symposium on the Effects of Climate Change on the World Oceans, 15-19 May 2012, Yeosu, Korea.
- 2012年3月 The 5th East Asian Federation of Ecological Societies International Congress. Invited talk. “The mechanism of marine ecosystem regime shift in the Kuroshio Extension region: Wind off Hawaii and sardine fishery in Japan”, 17-21 March 2012, Otsu.
- 2011年11月 The 5th China-Japan-Korea IMBER Symposium Training Course. Special lecture: “A multidisciplinary ocean science program SUPRFISH (Study on Prediction and Application of Fish Species Alternation): Implementation strategy and results.” Shanghai, PRC.
- 2009年8月 Asia Oceania Geosciences Society, Distinguished Lecture at the 6th Annual Meeting for AOGS 2009 “A case study of iron enrichment to HNLC subarctic North Pacific”, Singapore, Singapore.”
- 2008年11月 IMBER IMBIZO, Keynote talk at the IMBER-IMBIZO “Integrating biogeochemistry and ecosystems in a changing ocean” Miami, USA.
- 2008年11月 IMBER IMBIZO, Scientific organizing committee members and the co-chair of the Mesopelagic Workshop. Miami, USA.
- 2008年10月 PICES 17th Annual Meeting, co-chair of the BIO Topic Session on “End-to-end food webs: Impacts of a changing ocean”. Dalian, PRC.
- 2008年10月 PICES 17th Annual Meeting. Invited talk for the Science Board Symposium, Dalian, PRC.
- 2008年5月 Fourth IGBP Congress. Invited talk for the working group session “End-to-end food webs in marine ecosystems”. Cape Town, South Africa.
- 2006年10月 PICES 15th Annual Meeting, co-chair of the topic session “Advances in epi- and mesopelagic ecosystem research”. Yokohama, Japan.
- 2006年10月 PICES 15th Annual Meeting, co-convenor of the BIO committee and IMBER cosponsored session “Interactions between Biogeochemical Cycles and Marine Food Webs in the North Pacific Ocean”. Yokohama, Japan.

- 2006年5月 GLOBEC workshop "Mathematical Modelling of Zooplankton Dynamics". Marseille, France.
- 2006年2月 The 13th Ocean Sciences Meeting, co-convener of the topic session "Sinking Particle Fluxes in the Twilight Zone". Honolulu, USA.
- 2004年2月 6th IOC WESTPAC Scientific Symposium, co-chair of the Session II: "Upper ocean and lower atmosphere interaction". Hangzhou, China.
- 2002年10月 Invited speaker. GLOBEC Open Science Meeting. Plenary session "Linking zooplankton with fishery dynamics" Qingdao, China.

委員等活動

- 2018年4月～ユネスコ国内委員会自然科学小委員会調査委員
- 2017年3月～IOC協力推進委員会WESTPAC国内専門部会委員
- 2016年8月～2017年3月 平成28年度環境研究総合推進費架台検討会検討委員（公立研究開発法人国立環境研究所理事長）
- 2016年8月-2018年3月 国立研究開発法人海洋研究開発機構 海洋研究課題審査部会 部会員 （海洋研究開発機構理事長）
- 2016年8月-2017年3月 総合海洋政策本部参与会議 総合的な沿岸域の環境管理の在り方PT構成員 （内閣官房総合海洋政策本部事務局長）
- 2010年10月－ 2014年3月東京大学大気海洋研究所共同研究運営委員会学際連携研究部会委員
- 2006年－ 農林水産省競争的資金書面審査専門評価委員
- 2005年-2010年 文部科学省地球観測システム構築プラン 地球温暖化・炭素循環観測研究プロジェクト「海洋二酸化炭素センサー開発と観測基盤構築」研究運営委員会外部委員

Project

- 2020-2023 「持続的な東南アジア海洋生態系利用のための研究教育プロジェクト」
CREPSUM (Collaborative Research and Education Project in Southeast Asia for Sustainable Use of Marine Ecosystems)、日本学術振興会研究拠点形成事業 (B.アジア・アフリカ学術基盤形成型)、研究代表者
<https://jspscrepsum.wixsite.com/mysite>
- 2019-2020 文部科学省政府開発援助ユネスコ活動費補助金「東南アジア海洋生態系サービスの持続的な利用を目指した研究活動計画の策定」事業 事業責任者
- 2017-2019 東南アジア沿岸生態系の研究教育ネットワーク (RENSEA) 研究代表者 (プロジェクトコーディネーター)、日本学術振興会 Core-to-core

program

<http://mits10.aori.u-tokyo.ac.jp/lirc/renea/link.html>

2012-2017 新海洋像-その機能と持続的生産 (NEOPS)

研究代表者 (A01 海洋生元素地理の高精度観測からの新海洋区系) 科研費
新学術領域研究 (文部科学省)

<http://ocean.fs.a.u-tokyo.ac.jp/>

2011-2020 我が国の魚類生産を支える黒潮生態系の変動機構の解明 (SKED) 研究代
表者 (2011-14)、メンバー (2014-2020) 文部科学省国家基幹研究開発
推進事業

<http://tnfri.fra.affrc.go.jp/kaiyo/sked/english/index.html>

2007-2012 環境変動に伴う海洋生物大発生の予測・制御技術の開発 (POMAL) 研究代
表者 サブプロジェクト「魚種交替の予測・利用技術の開発」

(SUPRFISH) 農林水産省農林水産技術会議プロジェクト

<http://tnfri.fra.affrc.go.jp/kaiyo/POMALweb/e-pomal.html>

2007 BLOSSOM (Blooming Plankton Succession Study in the Oyashio
Marine Ecosystem)、研究代表者

2005-2008 従属栄養性渦鞭毛虫による炭素輸送機構の解明、研究代表者

科研費基盤研究 (B) kaken.nii.ac.jp/d/p/17310016/2005/3/ja.ja.html

2003 SPINUP (Study for Plankton and Iron Dynamics in the western
Subarctic Pacific)

研究代表者

2002-2006 海洋生物資源の変動要因の解明と高精度変動予測技術の開発

研究代表者「深層生態系研究」(DEEP) 農林水産省農林水産技術会議プ
ロジェクト http://tnfri.fra.affrc.go.jp/personal/HP/index_j.html

2001-2004 北太平洋亜寒帯域鉄散布実験 (SEEDS)

環境省環境研究総合推進費

<http://www.seeds-exp.jp/intro.html#sum>

1998-2000 PROVES (陸棚域における鉛直交換過程研究)

ヨーロッパ連合科学プロジェクト MUST III

1998-2002 太平洋沖合域における環境変動が漁業資源に及ぼす影響の解明 (VENFISH)

農林水産省農林水産技術会議プロジェクト

<http://tnfri.fra.affrc.go.jp/venfish/index-j.html>

1997-2002 北太平洋亜寒帯循環と気候変動に関する国際共同研究 (SAGE)

文部科学省科学技術振興調整費総合研究

<http://tnfri.fra.affrc.go.jp/sage/comp/comp.html>

- 1996-1998 紫外線増加が植物プランクトンと動物プランクトンの相互関係に与える影響の評価に関する研究、研究代表者、環境庁地球環境研究総合推進費「紫外線増加が生態系に及ぼす影響に関する研究」
- 1993-1995 紫外線増加が動物プランクトンに及ぼす影響の評価に関する研究 環境庁地球環境研究総合推進費「紫外線の増加が植物等に及ぼす影響に関する研究」
- 1993-1995 基礎生産測定センサの開発研究、研究代表者、科学技術庁研究開発局プロジェクト「世界海洋観測システム構築に資する革新的ブイシステムの基盤技術開発研究」
- 1991-1993 SARES(佐呂間－Resolute 研究プロジェクト) 日加共同研究(文部省・国際学術研究)
- 1990- *A-line* モニタリング
水産総合研究センター交付金プロジェクトおよび総合科学技術会議温暖化イニシアチブプロジェクト
<http://hnf.fra.affrc.go.jp/a-line/index.html>
- 1990-1998 バイオコスモス計画(農林水産技術会議大型別枠研究“農林水産生態系秩序の解明と最適制御に関する総合研究”)

PUBLICATIONS

Refereed Publications:

1. Hashihama, F., Saito, H., Kodama, T., Yasui-Tamura, S., Kanda, J., Tanita, I., Ogawa, H., Woodward, E. M. S., Boyd, P. W., and Furuya, K. (2021) Cross-basin differences in the nutrient assimilation characteristics of induced phytoplankton blooms in the subtropical Pacific waters, *Biogeosciences*, 18, 897–915, <https://doi.org/10.5194/bg-18-897-2021>
2. Jiang, S., Hashihama, F., Saito, H. (2021) Phytoplankton growth and grazing mortality through the oligotrophic subtropical North Pacific. *Journal of Oceanography* <https://doi.org/10.1007/s10872-020-00580-4>
3. Hashihama, F., Saito, H., Shiozaki, T., Ehama, M., Suwa, S., Sugiyama, T., et al. (2020). Biogeochemical controls of particulate phosphorus distribution across the oligotrophic subtropical Pacific Ocean. *Global Biogeochemical Cycles*, 34, e2020GB006669. <https://doi.org/10.1029/2020GB006669>
4. Arifin, Z., and Saito, H. (2019). Bridging coastal research program between

Indonesia and Japan. *Marine Research in Indonesia*, 44, 34-41.

doi.org/10.14203/mri.v44i1.551

5. Hashihama, F., Suwa, S., Kanda, J., Ehama, M., Sakuraba, R., Kinouchi, S., Sato, M., Yamaguchi, T., Saito, H., Ogura, Y., Hayashi, T., Mori, H., Kurokawa, K., Suzuki, S., Hamasaki, K. (2019) Arsenate and microbial dynamics in different phosphorus regimes of the subtropical Pacific Ocean. *Progress in Oceanography* 176, 102-115. <https://doi.org/10.1016/j.pocean.2019.05.007>
6. Takagi, H., Kimoto, K., Fujiki, T., Saito, H., Schmidt, C., Kucera, M., Moriya, M. (2019) Characterizing photosymbiosis in modern planktonic foraminifera. *Biogeosciences*, 16, 3377-3396, <https://doi.org/10.5194/bg-16-3377-2019>
7. Bograd, S. J., Kang, S., Di Lorenzo, E., Horii, T., Katugin, O. N., King, J. R., Lobanov, V. B., Makino, M., Na, G., Perry, R. I., Qiao, F., Rykaczewski, R. R., Saito, H., Therriault, T. W., Yoo, S., Batchelder, H. (2019). Developing a Social–Ecological–Environmental System Framework to Address Climate Change Impacts in the North Pacific. *Front. Mar. Sci.* 6:333. <https://doi.org/10.3389/fmars.2019.00333>
8. Sogawa, S., Hidaka, K., Kamimura, Y., Takahashi, M., Saito, H., Okazaki, Y., Shimizu, Y., Setou, T. (2019) Environmental characteristics of spawning and nursery grounds of Japanese sardine and mackerels in the Kuroshio and Kuroshio Extension area. *Fish Oceanogr.* 2019; 28: 454– 467. <https://doi.org/10.1111/fog.12423>
9. Saito, H. (2019) The Kuroshio: its recognition, scientific activities and emerging issues. In *Kuroshio Current* (eds T. Nagai, H. Saito, K. Suzuki and M. Takahashi) AGU-Wiley Geophysical Monograph 243, pp3-11, AGU and John Wiley and Sons, Hoboken, USA. <https://doi.org/10.1002/9781119428428.ch1>
10. Miyamoto, H., Vijai, D., Okazaki, Y., Saito, H. (2019) Feeding ecology of chaetognath *Flaccisagitta enflata* in Kuroshio region, western North Pacific. In *Kuroshio Current* (eds T. Nagai, H. Saito, K. Suzuki and M. Takahashi) AGU-Wiley Geophysical Monograph 243, pp245-256, AGU and John Wiley and Sons, Hoboken, USA. doi:10.1002/9781119428428.ch16
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