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RESEARCH EXPERIENCE

2025 – Present Postdoctoral Fellow

Department of Entomology, Cornell University, Ithaca NY, US

Advised by Dr. Corrie Moreau

2023 – 2025 Overseas Research Fellow of the Japan Society for the Promotion of Science

Department of Entomology, Cornell University, Ithaca NY, US

Advised by Dr. Corrie Moreau

2020 – 2023 Research Fellow of the Japan Society for the Promotion of Science (PD)

School of Life Science and Technology, Tokyo Institute of Technology, Japan

Advised by Dr. Yuichi Hongoh

2018 – 2020 Research Fellow of the Japan Society for the Promotion of Science (DC2)

Graduate School of Agriculture, Kyoto University, Japan

Advised by Dr. Kenji Matsuura

EDUCATION

2017 – 2020 Ph.D. in agriculture

Insect Ecology Lab, Graduate School of Agriculture, Kyoto University

Advised by Dr. Kenji Matsuura

Thesis title: Studies on novel functions and caste specificity of termite gut microbes

2015 – 2017 MS in agriculture

Insect Ecology Lab, Graduate School of Agriculture, Kyoto University

Advised by Dr. Kenji Matsuura

2011 – 2015 BS

Tropical Forest Resources and Environment Lab, Department of Forest and Biomaterials Science, Faculty of Agriculture, Kyoto University

Advised by Dr. Kaoru Kitajima

GRANTS

2023 – 2025	JSPS Overseas Research Fellowship
2020 – 2023	JSPS Research Fellowship (PD): JPY 3,700,000 ($\approx$ 25,000 USD) for research “Vertical Transmission Mechanism of Termite Gut Microbiota”, PI: <u>Inagaki T.</u>
2022	JAEZ travel grant: JPY 250,000 ($\approx$ 1,700 USD)
2018 – 2020	JSPS Research Fellowship (DC2): 1,900,000 JPY ($\approx$ 13,000 USD) for research “Effects of Gut Microbiota on Environmental Microorganisms through Termite Hosts”, PI: <u>Inagaki T.</u>
2018	The Kyoto University Foundation travel grants: 250,000 JPY ($\approx$ 1,700 USD)
2018	JIUSSI travel grant

PUBLICATIONS (*corresponding author; ¶equal contribution)

1. Nakashima M.¶, Mitaka Y.¶*, **Inagaki T.**, Matsuura K. (2024) An antifungal compound secreted by termite workers, phenylacetic acid, inhibits the growth of both termite egg-mimicking fungus and entomopathogenic fungi. *Insectes Sociaux* 71: 221-232
2. **Inagaki T.***, Igai K., Takahashi K., Hongoh Y. (2024) Transmission dynamics of symbiotic protist communities in the termite gut: association with host adult eclosion and dispersal. *Royal Society Open Science* 11: 231527
3. Takahashi K.*, Kuwahara H., Horikawa Y., Izawa K., Kato D., **Inagaki T.**, Yuki M., Ohkuma M., Hongoh Y.* (2023) Emergence of putative energy parasites within Clostridia revealed by genome analysis of a novel endosymbiotic clade. *ISME Journal* 17: 1895–1906
4. Takata M.*, Nagai S., **Inagaki T.**, Ohkubo Y., Tasaki E., Matsuura K. (2023) Heritable effects on caste determination and colony-level sex allocation in termites under field conditions. *iScience* 26: 3
5. **Inagaki T.***, Nozaki T., Matsuura K. (2022) Rapid elimination of symbiotic intestinal protists during the neotenic differentiation in a subterranean termite, *Reticulitermes speratus*. *Insectes Sociaux* 69: 335-343
6. Takata M.*, **Inagaki T.**, Ishibashi T., Tasaki E., Matsuura K. (2020) A non-invasive method for sexing first and second instar larvae of termites using external morphology. *Insectes Sociaux* 67: 487-493
7. **Inagaki T.***, Yanagihara S., Fuchikawa T., Matsuura K. (2020) Gut microbial pulse provides nutrition for parental provisioning in incipient termite colonies. *Behavioral Ecology and Sociobiology* 74: 64
8. Tasaki E., Komagata Y., **Inagaki T.**, Matsuura K.* (2020) Reproduction deep inside wood: a low

O₂ and high CO₂ environment promotes egg production by termite queens. *Biology Letters* 16: 20200049

9. **Inagaki T.***, Matsuura K. (2018) Extended mutualism between termites and gut microbes: Nutritional symbionts contribute to nest hygiene. *The Science of Nature* 105: 52
10. **Inagaki T.***, Matsuura K. (2016) Colony-dependent sex differences in protozoan communities of the lower termite *Reticulitermes speratus* (Isoptera: Rhinotermitidae), *Ecological Research* 31: 749-755

Manuscript in prep

- **Inagaki T.**, Shaffer J P., Zalamea C., Sarmiento C., Arnold A E., Izuno A., Kitajima K. (In Prep) Leaf disease, fungal endophytes, and juvenile performance of *Tachigali versicolor* vary with seedling density in a moist neotropical forest.

PRESENTATIONS

International conferences

1. **Inagaki T.**, Moreau C. Disrupting a long-standing symbiotic relationship: artificial manipulation of protist community composition in the termite gut and its effect on host traits. 27th International Congress of Entomology 2024. Kyoto (Japan) Aug 2024, oral **Presentation Award for Young Scientists**
2. **Inagaki T.**, Moreau C., Disrupting an intimate and long-standing symbiotic relationship: artificial manipulation of protist community composition in termite gut. 3rd Joint Congress on Evolutionary Biology. Montreal (Canada) Jul 2024, oral
3. **Inagaki T.**, Igai K., Takahashi K., Hongoh Y., Dynamics of gut microbiota in termite associated with host's adult eclosion and dispersal. 10th International Symbiosis Society Congress. Lyon (France) Jul 2022, poster
4. Takahashi K., Kuwahara H., Horikawa Y., **Inagaki T.**, Izawa K., Yuki M., Ohkuma M., Hongoh Y. Genome analysis of a novel endosymbiotic clade in Clostridia suggests the emergence of energy parasites within the predominant bacterial class in animal intestines. 10th International Symbiosis Society Congress. Lyon (France) Jul 2022, poster
5. **Inagaki T.**, Igai K., Yanagihara S., Fuchikawa T., Hongoh Y., Matsuura K. Gut microbial pulse provides nutrition for parental provisioning to larvae during colony foundation in a termite. 26th International Congress of Entomology 2022. Helsinki (Finland) Jul 2022, poster
6. **Inagaki T.**, Igai K., Takahashi K., Hongoh Y. Dynamics of gut microbiota in termite during caste differentiation and vertical transmission. International Union for the Study of Social Insects (IUSSI2022). San Diego (US) Jul 2022, oral
7. Takata M., Nagai S., **Inagaki T.**, Ohkubo Y., Ishibashi T., Tasaki E., Matsuura K. Endogenous factors regulating offspring caste fate and colony-level sex allocation in termites. International

Union for the Study of Social Insects (IUSSI2022). San Diego (US) Jul 2022, oral

8. **Inagaki T.**, Matsuura K. Extended symbiosis: gut microbes protect termite nests from opportunistic microorganisms. International Union for the Study of Social Insects (IUSSI2018), Guarujá (Brazil), August 2018, oral

Japanese conferences presented by English

1. **Inagaki T.**, Igai K., Hongoh Y., Matsuura K. Royal-specific gut microbiota in termites. The 68th Annual Meeting of the Ecological Society of Japan, Online, March 2021, oral
2. **Inagaki T.**, Matsuura K. Gut microbial pulse provides nutrition for parental provisioning in incipient termite colonies. The 35th Annual Meeting of the Society of Population Ecology, Kyoto, September 2019, poster
3. **Inagaki T.**, Matsuura K. Termite gut symbionts contribute to nest hygiene. The 62nd Annual Meeting of the Japanese Society of Applied Entomology & Zoology, Kagoshima, March 2018, oral
English Presentation Award
4. **Inagaki T.**, Matsuura K. Extended mutualism: termite gut symbionts contribute to nest hygiene. The 65th Annual Meeting of the Ecological Society of Japan, Hokkaido, March 2018, oral **English Presentation Award**

Japanese conferences

1. Takata M., Nagai S., **Inagaki T.**, Ohkubo Y., Tasaki E., Matsuura K. The 68th Annual Meeting of the Japanese Society of Applied Entomology & Zoology, Sendai, March 2024, poster
2. **Inagaki T.**, Igai K., Takahashi K., Hongoh Y. The 67th Annual Meeting of the Japanese Society of Applied Entomology & Zoology, Sendai, March 2024, oral
3. Kobayashi K., Kuwahara K., Igai K., Takahashi K., **Inagaki T.**, Yoshioka T., Ohkuma M., Hongoh Y. The 35th annual meeting of Japanese society of Microbial Ecology, Hokkaido, September 2022, poster
4. Takahashi K., Kuwahara K., Horikawa Y., **Inagaki T.**, Izawa K., Yuki H., Ohkuma M., Hongoh Y. The 16th Wakate Colosseum for Bacteriology, Hokkaido, August 2022, poster
5. **Inagaki T.**, The 69th Annual Meeting of Ecological Society of Japan, Online, March 2022, oral
6. Takata M., Nagai S., **Inagaki T.**, Okubo Y., Tasaki E., Matsuura K., The 40th Annual Meeting of the Japan Ethological Society, Online, September 2021, poster
7. **Inagaki T.**, Yanagihara S., Fuchikawa T., Matsuura K. The Annual Meeting of the Entomological Society of Japan, Online, September 2021, oral
8. **Inagaki T.**, Igai K., Hongoh Y. Matsuura K. Symbio 2021, Online, October 2020, oral
9. **Inagaki T.** Online Workshop for Social Insect Study, Online, July 2020, oral
10. Takata M., Nagai S., **Inagaki T.**, Tasaki E., Matsuura K. The 38th Annual Meeting of the Japan Ethological Society, Osaka, November 2019, poster
11. **Inagaki T.** Unique-Kai, Kyoto, August 2019, oral

12. **Inagaki T.**, Matsuura K. Joint Conference of the Societies for Environmental Microbiology, Sendai, August 2017, poster
13. **Inagaki T.**, Matsuura K. The 19th Annual Meeting of the Society of Evolutionary Studies, Kyoto, August 2017, poster
14. **Inagaki T.**, Fuchikawa T., Matsuura K. The 64th Annual Meeting of the Ecological Society of Japan, Tokyo, March 2017, poster Best Presentation Award
15. **Inagaki T.**, Matsuura K. General Meeting of Kinki Branch of Ecological Society of Japan, Osaka, December 2016, oral
16. **Inagaki T.**, Matsuura K. The 63rd Annual Meeting of the Ecological Society of Japan, Sendai, March 2016, poster
17. **Inagaki T.**, Shaffer J., Arnold E., Zalamea C., Sarmiento C., Izuno A., Kitajima K. The 62nd Annual Meeting of the Ecological Society of Japan, Kagoshima, March 2015, poster

Symposium, workshops, and Internal seminars

1. 2025 CIHMID (Cornell Institute of Host-Microbe Interactions and Disease) Symposium, Cornell University, July 2025 (Presented by Sera Ko)
2. The 13th Annual Cornell Entomology Symposium, Cornell University, Jan 2024
3. SIRG Seminar, Arizona State University Nov 2023
4. The 60th EZO seminar Online Mar 2023
5. The 44th Protist ▪ Parasite ▪ Evolution seminar Tokyo Dec 2022
6. Tohoku University, Tohoku (Japan), Nov 2021 (internal seminar)
7. Harvard University, Massachusetts (US), July 2019 (internal seminar)
8. Texas University at Austin, Texas (US), July 2019 (internal seminar)
9. Texas A&M University, Texas (US), July 2019 (internal seminar)
10. Inagaki T. Royal-specific gut microbial community in termites. Termite course 2019 Florida Jun 2019, oral **Best Presentation Award**
11. Symposium of Behavioral Ecology -Social Insects and Beyond-. Kyoto Feb 2019
12. Huazhong Agricultural University, Wuhan (China), Sep 2018 (internal seminar)

SYMPOSIUM ORGANIZATION

- 2022** Symposium 29: Exploring the intricacies of relationships between social insects and microorganisms, International Union for the Study of Social Insects (IUSSI2022), San Diego (US), co-chair: Dr. Marielle Postava-Davignon, Dr. Hiroyuki Shimoji
- 2022** Workshop w15: Dig deeper into animal–microbe symbioses, The 69th Annual Meeting of Ecological Society of Japan, Online, co-chair: Dr. Hiroyuki Shimoji

HONORS AND PRIZES

2024 Presentation Award for Young Scientists (The 27th International Congress of Entomology 2024)

2019 Best Presentation Award (Termite Course 2019)

2018 Best English Presentation Award (The 62nd Annual Meeting of the Society of Applied Entomology and Zoology)

2018 Best English Presentation Award (The 65th Annual Meeting of Ecological Society of Japan)

2017 Best Poster Award (The 64th Annual Meeting of Ecological Society of Japan)

EDITORIAL ACTIVITIES

Ad hoc reviewer: Insectes Sociaux (4); Scientific reports; Journal of Pest Science; The Science of Nature (2); ISME communications; Protist; Animal Microbiome (2); Ecology and Evolution (3), Neotropical Entomology

EDUCATIONAL ACTIVITIES

Lecture, TA, Outreach

2025 Guest Lecture in BioEE, Entom, & BioNB 369 “Chemical Ecology”, Cornell University

2024 Guest Lecture in Entom 2120 “Insect Biology”, Cornell University

2023 Guest lecturer “Social Life History of Termites” at Cornell University

2016 – 2018 Teaching assistant in student practice class at Kyoto University

2016 Commentary for the special exhibition “Frontiers in Entomology” at The Kyoto University Museum

Student Mentorship

Sep 2025-Current Ivy Ng (Undergraduate student, co-mentored by Dr. Peiwei Chen)

Jan 2025-Current Sera Ko (Undergraduate student)

Jun 2024 Eduardo Guzman (High school intern)

FIELDWORK EXPERIENCE

2014 Barro Colorado Island, Panama
Survey and collection of seedlings of a Fabaceae tree *Tachigali versicolor*

2015 – 2023 Kyoto, Shiga, Tokyo, Chiba, Saitama, Kanagawa, Tochigi, and Nagano, Japan
Collection of a termite *Reticulitermes speratus*

2015 – 2020	Hyogo, Japan Collection of a termite <i>Zootermopsis nevadensis</i>
2016	Okinawa, Japan Collection of a termite <i>Reticulitermes okinawanus</i>
2016, 2021	Wakayama and Chiba, Japan Collection of a termite <i>Coptotermes formosanus</i>
2018	Wuhan, China Collection of a termite <i>Reticulitermes chinensis</i>
2019	Fort Lauderdale, Florida, US Collection of termites <i>Reticulitermes virginicus</i> , <i>R. flavipes</i> , and <i>Cryptotermes brevis</i>
2019	College station, Texas, US Collection of a termite <i>R. flavipes</i>
2022	Kagoshima, Japan Collection of a termite <i>Hodotermopsis sjostedti</i>
2024	Tucson, Arizona. US Collection of termites <i>Paraneotermes simplicicornis</i> , <i>Gnathamitermes perplexus</i> , and <i>Incisitermes minor</i>
2023 – 2025	Ithaca, New York, US Collection of a termite <i>R. flavipes</i> and an ant <i>Aphaenogaster picea</i>
2024, 2025	Monterey, California, US Collection of termites <i>Zootermopsis angusticollis</i> , <i>Z. nevadensis</i> , <i>R. hesperus</i> , <i>Incisitermes minor</i>

COMMITTEE

2024 – Current DEIJB (Diversity, Equity, Inclusion, Justice and Belonging) Working Group in the Department of Ecology and Evolution, Cornell University