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Professional Appointments

2024-Present	Assistant Professor Department of Entomology and Plant Pathology, Auburn University
2023	OIST Interdisciplinary Postdoctoral Scholar Fellowship Okinawa Institute of Science and Technology Evolutionary Genomics Unit / Computational Neuroethology Unit Advised by Thomas Bourguignon and Sam Reiter
2020-2023	JSPS Research Fellow (CPD, cross-border postdoctoral) Okinawa Institute of Science and Technology Evolutionary Genomics Unit Advised by Thomas Bourguignon and Nathan Lo
2020-2020	JSPS Research Fellow (SPD, superlative postdoctoral) Okinawa Institute of Science and Technology Evolutionary Genomics Unit Advised by Thomas Bourguignon
2018-2020	JSPS Overseas Research Fellow School of Life Sciences Arizona State University Advised by Stephen C. Pratt
2015-2018	JSPS Research Fellow (DC1) Graduate School of Agriculture, Kyoto University, Japan Advised by Kenji Matsuura

Education

2018	Doctor of Agricultural Science Graduate School of Agriculture, Kyoto University, Japan Advised by Kenji Matsuura Thesis: Studies on the pattern formation algorithm of searching and construction behaviors
2015	Master of Agricultural Science Graduate School of Agriculture, Kyoto University, Japan Advised by Kenji Matsuura

2013 **Bachelor of Agriculture**
Department of Agriculture, Kyoto University, Japan

Publications

*: corresponding author, #: equal contributions

Papers in Refereed Journals

(25 first/co-first, 21 corresponding, Google Scholar metrics: citation = 442, h-index = 13)

2024

34. **Mizumoto N.***, Hellemans S., Engel M. S., Bourguignon T. & Buček A.* (2024) Extinct and extant termites reveal the fidelity of behavior fossilization in amber. *Proceedings of the National Academy of Science* (in press)

2023

33. Tanaka Y., Valentini G., Pratt. C. S., Shimoji H., & **Mizumoto N.*** (2023) Obtaining long movement trajectories of leaders and followers in ant tandem runs. *STAR Protocols*, 4(4):102769, DOI: [10.1016/j.xpro.2023.102769](https://doi.org/10.1016/j.xpro.2023.102769)
32. **Mizumoto N.*** (2023) TManual: Assistant for manually measuring length development in structures built by animals. *Ecology and Evolution*, 13(8):e10394, DOI: [10.1002/ece3.10394](https://doi.org/10.1002/ece3.10394)
31. **Mizumoto N.****, Tanaka Y.#, Valentini G., Richardson O. T., Annagiri S., Pratt. C. S. & Shimoji H. (2023) Functional and mechanistic diversity in ant tandem runs. *iScience*, 26(4):106418, DOI: [10.1016/j.isci.2023.106418](https://doi.org/10.1016/j.isci.2023.106418)

2022

30. **Mizumoto N.*** & Bourguignon T. (2022) Light alters activity but do not disturb tandem coordination of termite mating pairs. *Ecological Entomology*, 48(2):145-153, DOI: [10.1111/een.13209](https://doi.org/10.1111/een.13209)
29. **Mizumoto N.***, Bourguignon T., & Bailey W. N. (2022) Ancestral sex-role plasticity facilitates the evolution of same-sex sexual behavior. *Proceedings of the National Academy of Science*, 119(46):e2212401119, DOI: [10.1073/pnas.2212401119](https://doi.org/10.1073/pnas.2212401119)
28. Lee S.B.*, Chouvenc T., **Mizumoto N.**, Mullins A. & Su N.Y. (2022) Age-based spatial distribution of workers is resilient to worker loss in a subterranean termite. *Scientific Reports*, 12:7837, DOI: [10.1038/s41598-022-11512-1](https://doi.org/10.1038/s41598-022-11512-1)
27. Buček A., Wang M., Šobotník J., Sillam-Dussès D., **Mizumoto N.**, Stiblík P., Clitheroe C., Lu T., González Plaza J. J., Mohagan A., Rafanomezantsoa J. J., Fisher B., Engel M., Roisin Y., Evans T., Scheffrahn R. & Bourguignon T.* (2022) Molecular phylogeny reveals the past transoceanic voyages of drywood termites (Isoptera, Kalotermitidae). *Molecular Biology and Evolution*, 39(5):msa093, DOI: [10.1093/molbev/msac093](https://doi.org/10.1093/molbev/msac093)
26. **Mizumoto N.***, Bourguignon T. & Kanao T. (2022) Termite nest evolution fostered social parasitism by termitophilous rove beetles. *Evolution*, 76(5):1064-1072, DOI: [10.1111/evo.14457](https://doi.org/10.1111/evo.14457)

2021

25. Yashiro T.*, Tea Y-K., Wal C.V.D., Nozaki T., **Mizumoto N.**, Hellemans S., Matsuura K. & Lo N. (2021) Enhanced heterozygosity from male meiotic chromosome chains is superseded by hybrid

female asexuality in termites. *Proceedings of the National Academy of Science*, 118, e2009533118, DOI:[10.1073/pnas.2009533118](https://doi.org/10.1073/pnas.2009533118)

24. **Mizumoto N.*** & Bourguignon T. The evolution of body size in termites. (2021) *Proceedings of the Royal Society B*, 288: 20211458, DOI: [10.1098/rspb.2021.1458](https://doi.org/10.1098/rspb.2021.1458)
 23. **Mizumoto N.***, Lee S.B., Valentini G., Chouvenc T. & Pratt S.C. (2021) Coordination of movement via complementary interactions of leaders and followers in termite mating pairs. *Proceedings of the Royal Society B*, 288:20210998, DOI:[10.1098/rspb.2021.0998](https://doi.org/10.1098/rspb.2021.0998)
- 2020
22. Taerum S.J.* , Jasso-Selles D.E., Hileman J.T., De Marini F., **Mizumoto N.** & Gile G.H. (2020) Spirotrichonympha symbionts of the termite *Paraneotermes simplicicornis*. *European Journal of Protistology*, 76: 125742, DOI:[10.1016/j.ejop.2020.125742](https://doi.org/10.1016/j.ejop.2020.125742)
 21. **Mizumoto N.***, Rizo A., Pratt S.C. & Chouvenc T. (2020) Termite males enhance mating encounters by changing speed according to density. *Journal of Animal Ecology*, 89: 2542-2552, DOI:[10.1111/1365-2656.13320](https://doi.org/10.1111/1365-2656.13320)
 20. Valentini G., **Mizumoto N.**, Pratt S.C., Pavlic T.P.* & Walker S.I.* (2020) Revealing the structure of information flows discriminates similar animal social behaviors. *eLife*, 9:e55395, DOI:[10.7554/eLife.55395](https://doi.org/10.7554/eLife.55395)
 19. **Mizumoto N.***, Gile G. H. & Pratt S.C. (2020) Behavioral rules for soil excavation by colony founders and workers in termites. *Annals of the Entomological Society of America*, 114(5):654-661, DOI:[10.1093/aesa/saaa017](https://doi.org/10.1093/aesa/saaa017)
 18. **Mizumoto N.***, Bardunias P.M. & Pratt S.C. (2020) Complex relationship between tunneling patterns and individual behaviors in termites. *American Naturalist*, 196(5): 555-565, DOI:[10.1086/711020](https://doi.org/10.1086/711020)
 17. **Mizumoto N.*** & Bourguignon T. (2020) Modern termites inherited the potential of collective construction from their common ancestor. *Ecology and Evolution*, 10: 6775-6784 DOI:[10.1002/ece3.6381](https://doi.org/10.1002/ece3.6381)
 16. Mitaka Y.* , Matsuyama S., **Mizumoto N.**, Matsuura K. & Akino T. (2020) Chemical identification of an aggregation pheromone in the termite *Reticulitermes speratus*. *Scientific Reports* 10: 7424 DOI:[10.1038/s41598-020-64388-4](https://doi.org/10.1038/s41598-020-64388-4)
- 2019
15. Shimoji H.** , **Mizumoto N.**#, Oguchi K. & Dobata S. (2019) Caste-biased locomotor activities in isolated termites. *Physiological Entomology* 45: 50-59 DOI:[10.1111/phen.12315](https://doi.org/10.1111/phen.12315)
 14. Mee E. D., Gaylor M. G., Jasso-Selles D. E., **Mizumoto N.** & Gile G. H.* (2019) Molecular phylogenetic position of *Hoplonympha natator* (Trichonympha, Parabasalia). *Journal of Eukaryotic Microbiology* 67: 268-272 DOI:[10.1111/jeu.12765](https://doi.org/10.1111/jeu.12765)
 13. **Mizumoto N.***, Miyata S. & Pratt S. C. (2019) Inferring collective behavior from a fossilized fish shoal. *Proceedings of the Royal Society B* 286: 20190891 DOI: [10.1098/rspb.2019.0891](https://doi.org/10.1098/rspb.2019.0891)
 12. **Mizumoto N.*** & Dobata S. Adaptive switch to sexually dimorphic movements by partner-seeking termites. (2019) *Science Advances* 5: eaau6108 DOI: [10.1126/sciadv.aau6108](https://doi.org/10.1126/sciadv.aau6108)
- 2018

11. **Mizumoto N.** (2018) Barricade construction by primitive termites: Task allocation and evolutionary perspectives. *Artificial Life and Robotics* 23: 469-473 DOI:[10.1007/s10015-018-0474-6](https://doi.org/10.1007/s10015-018-0474-6)
 10. Yashiro T. *, Lo N., Kobayashi K., Nozaki T., Fuchikawa T., **Mizumoto N.**, Namba Y. & Matsuura K. (2018) Loss of males from mixed-sex societies in termites *BMC Biology* 16: 96 DOI:[10.1186/s12915-018-0563-y](https://doi.org/10.1186/s12915-018-0563-y)
 9. **Mizumoto N.*** & Dobata S. (2018) The optimal movement patterns for mating encounters with sexually asymmetric detection ranges. *Scientific Reports* 8: 3356 DOI:[10.1038/s41598-018-21437-3](https://doi.org/10.1038/s41598-018-21437-3)
 8. Matsuura K.*#, **Mizumoto N.**#, Kobayashi K., Nozaki T., Fujita T., Yashiro T., Fuchikawa T., Mitaka Y. & Vargo E. L. (2018) A genomic imprinting model of termite caste determination: Not genetic but epigenetic inheritance influences offspring caste fate. *The American Naturalists* 191(6): 677-690 DOI:[10.1086/697238](https://doi.org/10.1086/697238)
- 2017
7. Hasegawa E.*#, **Mizumoto N.**#, Kobayashi K., Dobata S., Yoshimura J. Watanabe S., Murakami Y. & Matsuura K. (2017) Nature of collective decision-making by simple yes/no decision units. *Scientific Reports* 7:14436 DOI:[10.1038/s41598-017-14626-z](https://doi.org/10.1038/s41598-017-14626-z)
 6. **Mizumoto N.***, Fuchikawa T. & Matsuura K. (2017) Pairing strategy after today's failure: unpaired termites synchronize mate search using photic cycles. *Population Ecology* 59(3): 205-211. DOI:[10.1007/s10144-017-0584-3](https://doi.org/10.1007/s10144-017-0584-3)
 5. Nagaya N.*#, **Mizumoto N.**#, Abe M. S., Dobata S., Sato R. & Fujisawa R.* (2017) Anomalous diffusion on the servosphere: a potential tool for detecting inherent organismal movement patterns. *PLOS ONE* 12(6): e0177480. DOI:[10.1371/journal.pone.0177480](https://doi.org/10.1371/journal.pone.0177480)
 4. **Mizumoto N.***, Abe M. S.* & Dobata S.* (2017) Optimizing mating encounters by sexually dimorphic movements. *Journal of the Royal Society Interface* 14: 20170086. DOI:[10.1098/rsif.2017.0086](https://doi.org/10.1098/rsif.2017.0086)
- ~2016
3. **Mizumoto N.***, Yashiro T. & Matsuura K. (2016) Male same-sex pairing as an adaptive strategy for future reproduction in termites. *Animal Behaviour* 119: 179-187. DOI:[10.1016/j.anbehav.2016.07.007](https://doi.org/10.1016/j.anbehav.2016.07.007)
 2. **Mizumoto N.***, Kobayashi K. & Matsuura K. (2015) Emergence of intercolonial variation in termite shelter tube patterns and prediction of its underlying mechanism. *Royal Society Open Science* 2: 150360 DOI:[10.1098/rsos.150360](https://doi.org/10.1098/rsos.150360)
 1. **Mizumoto N.** & Matsuura K.* (2013) Colony-specific architecture of shelter tubes by termites. *Insectes Sociaux* 60: 525-530. DOI:[10.1007/s00040-013-0319-1](https://doi.org/10.1007/s00040-013-0319-1)

Preprints

8. **Mizumoto N.**, Lee S-B. & Chouvenec T. (2024) The strength of sexual signals predicts same-sex pairing in termites (submit to *Biol Lett*)
7. **Mizumoto N.** (2024) A report on *Glyptotermes nakajimai* from Oi-cho and Wakasa-cho. (submit to *Bulletin of The Fukui City Museum of Natural History*)

6. Lynch C. M.* , Starkey M., Montgomery D., Pavlic T. P. & **Mizumoto N.** (2024) Balancing samples within and among groups in the design of experiments from a social-insect research context (submit to *Proceedings of the Royal Society B*)
5. **Mizumoto N.*** , Nagaya N. & Fujisawa R. (2024) Wasted efforts impair random search efficiency and reduce choosiness in mate-pairing termites. *bioRxiv*, DOI: [10.1101/2024.02.01.578198](https://doi.org/10.1101/2024.02.01.578198) (submit to *Ecology*)
4. **Mizumoto N.*** & Reid C. (2023) Ant and termite collective behavior: group-level similarity arising from individual-level diversity. (submit to *Ecol Res*)
3. **Mizumoto N.*** & Nozaki T. (2023) The significance of social interactions in synchronized swarming flight in a termite. *bioRxiv*, DOI: [10.1101/2023.12.25.573318](https://doi.org/10.1101/2023.12.25.573318) (under review at *Proceedings of the Royal Society B*)
2. Hellemans S.* , Rocha M. M., Wang M., Aanen D. K., Bagnères A-G., Buček A., Carruhi T. F., Chouvenc T., Cuzzo C., Constantini J. P., Constantino R., Dedeine F., Deligne J., Eggleton P., Evans T. A., Josens G., Hanus R., Harrison M., Harry M., Jouault C., Kalleshwaraswamy C M., Kaymak E., Korb J., Lee C-Y., Legendre F., Li H-F., Lo N., Lu T., Matsuura K., Maekawa K., McMahon D., **Mizumoto N.**, Oliveira D. E., Poulsen M., Arias J. R., Sillam-Dusses D., Su N-Y., Tokuda G., Vargo E., Ware J. L., Šobotník J., Scheffrahn R. H., Canello E., Roisin Y., Engel M. S., Bourguignon T.* (2023) A stable higher classification of extant termites. (under review at *Nat Commun*)
1. Cuaresma D. C. N., Gavina M. K. A., Rabajante J., Tubay J., Okabe T., Morita S., Kobayashi K., **Mizumoto N.**, Ito H., Yoshimura J., Kakishima S., & Cooley J. (2023) Simulation analysis of indirect interbrood interactions by predation and infection in periodical cicadas. (under review at *Royal Society Open Science*)

Review and commentary

2022

8. **Mizumoto N.** (2022) Rendezvous search in termites. *Communications of the Operations Research Society of Japan* 67: 167-171 [originally in Japanese, translated by NM]

2019

7. **Mizumoto N.** (2019) The social life of a fish shoal in ancient times. *The ScienceBreaker* DOI:10.25250/thescbr.brk291
6. **Mizumoto N.** (2019) Sexually differential movements and optimization of mating encounters. *The Japanese Journal of Animal Psychology* 69: 17-25 DOI:10.2502/janip.69.2.4 [content in Japanese] (refereed)

2018

5. **Mizumoto N.** (2018) Studies on the Pattern Formation Algorithm of Searching and Construction Behaviors. *Shiroari* 170: 36-41 [content in Japanese]
4. **Mizumoto N.** (2018) Adaptive value of same sex pairing in termite males. *The nature and Insects* 53(2) 9-12 [originally in Japanese, translated by NM]

2017

3. **Mizumoto N.** & Dobata S. (2017) Ecology of social insects: a potential field of self-organization studies. *Journal of the Robotics Society of Japan* 36(6) 22-28 DOI:10.7210/jrsj.35.459 [content in Japanese] (refereed)
2. **Mizumoto N.** (2017) Finger closed. How males and females move to search for partner efficiently? *Academist Journal* [originally in Japanese, translated by NM]
1. **Mizumoto N.** (2017) Self-organization in termite construction: colony specificity in shelter-tube construction of *Reticulitermes speratus*. *Shiroari* 163: 21-25 [originally in Japanese, translated by NM]

Essay

- 5 **Mizumoto N.** (2022) Me, termites and VR. *Journal of the Virtual Reality Society of Japan* 22(2) 8-11 [originally in Japanese, translated by NM]
- 4 **Mizumoto N.** (2021) In the right place at the right time. *Society of Evolutionary Studies, Japan News* 22(1) 11-14 [originally in Japanese, translated by NM]
- 3 **Mizumoto N.** (2020) Study abroad, my experience in Arizona. *Kotaigun Seitai Gakkai kaiho*, 77 28-32 [originally in Japanese, translated by NM]
- 2 **Mizumoto N.** (2017) Report of Behaviour 2017. *Japan Ethological Society MailNews* 242 [originally in Japanese, translated by NM]
- 1 **Mizumoto N.** (2014) Report of IUSSI2014. *JIUSSI*

Grants and Awards

Grants

- | | |
|-----------|--|
| 2024 | Christopher Barnard Award for 2024, The Association for the Study of Animal Behaviour (ASAB), 1,000 EUR (\approx 1,000 USD) |
| 2024-2027 | Discovery Early Career Researcher Award (DECRA), Australian Research Council, 388,487.00 AUD, "Reconstructing evolutionary history of termite collective nest construction", PI: Mizumoto N. (secured but will be declined due to another appointment) |
| 2023-2024 | The Motoo Kimura Trust Foundation for the Promotion of Evolutionary Biology, 1,000,000 JPY (\approx 7,200 USD), for Japan Eco-Evo English Seminar 2023. PI: Kass J. M., Co-PIs: Fujioka H., Mizumoto N. |
| 2023-2026 | JSPS Grant-in-Aid for Challenging Research (Pioneering), 25,220,000 JPY (\approx 180,000 USD), "Reliving termite evolution through experimental replacement of gut microorganisms", PI: Tokuda G., Co-PIs: Bourguignon T., Mizumoto N. , 23K17380 (stopped in the end of 2023 due to US visa regulation) |
| 2023 | OIST SHINKA grant FY2023, 800,000 JPY (\approx 5,800 USD), "A new framework to comprehend nest migration dynamics in social insects with a diverse communication system." PI: Mizumoto N. , co-PI: Planas-Sitjà I. |
| 2023-2026 | OIST Interdisciplinary Postdoctoral Scholar Fellowship, 300,000 JPY annually (\approx 2,200 USD), PI: Mizumoto N. (stopped in the end of 2023 due to another appointment) |
| 2022-2023 | Grant for Basic Science Research Project from the Sumitomo Foundation, 1,200,000 JPY (\approx 8,500 USD, 13,000 AUD, 8,500 EUR), "The role of resource competition in termite soldier evolution." PI: Mizumoto N. , 2200302 |

- 2022-2025 JSPS Grant-in-Aid for Scientific Research (B), 17,290,000 JPY (\approx 126,420 USD, 185,670 AUD, 124,900 EUR), "Maintenance mechanisms of the reproductive division of labor in social insects by long-term behavioral tracking." PI: Shimoji H., Co-PIs: Miura K., **Mizumoto N.**, Dobata S., 22H02364 (stopped in the end of 2023 due to US visa regulation)
- 2021-2022 The Motoo Kimura Trust Foundation for the Promotion of Evolutionary Biology, 230,000 JPY (\approx 2,080 USD, 2,800 AUD, 1,780 EUR), for Japan Eco-Evo English Seminar. PIs: **Mizumoto N.**, Kass J. M.
- 2021-2024 JSPS Grant-in-Aid for Early-Career Scientists, 4,680,000 JPY (\approx 43,000 USD, 57,670 AUD, 36,330 EUR), "Contact-based behavioral rules for insect collective motion." PI: **Mizumoto N.**, 21K15168
- 2020-2025 JSPS Research Fellowship (SPD-CPD), 19,500,000 JPY (177,000 USD, 240,300 AUD, 151,380 EUR) for research, "Evolutionary process of termite construction revealed by comparative and constructive approaches." PI: **Mizumoto N.**, 20J00660 (stopped in the end of 2023 due to US visa regulation)
- 2019 Weaving the Future of Animal Behavior (WFAB) Program travel expense 500 USD
- 2018 JSPS Overseas Research fellowship
- 2015-2018 JSPS Research Fellowship (DC1), 2,800,000 JPY (\approx 25,400 USD, 34,500 AUD, 21,700 EUR) for research, PI: **Mizumoto N.**, 15J02767
- 2014 Travel Award, The Japanese section of The International Union for the Study of Social Insects, 212,648 JPY (\approx 1,931 USD, 2,620 AUD, 1,650 EUR)

Awards

- 2024 Christopher Barnard Award for 2024, The Association for the Study of Animal Behaviour (ASAB)
- 2021 37th Inoue Research Award for Young Scientists, 500,000 JPY (\approx 4,540 USD, 6,150 AUD, 3880 EUR)
- 2021 Young Scholar Award of the Ecological Society of Japan (ESJ Suzuki Award), 50,000 JPY (\approx 450 USD, 610 AUD, 390 EUR)
- 2020 Japan Ethological Society Award
- 2020 Young Scientist Initiative Award, Society of Evolutionary Studies, Japan
- 2018 Ikushi Prize, Japan Society for the Promotion of Science, 1,100,000 JPY (\approx 10,000 USD, 12,300 AUD, 8,540 EUR)

Presentation awards

- 2018 Best English Presentation Award, The 62th Annual Meeting of the Society of Applied Entomology and Zoology
- 2016 Best Poster Award, The 32th Annual Meeting of the Society of Population Ecology
- 2016 Best English Presentation Award, The Joint Annual Meeting of the Entomological Society of Japan and the Japanese Society of Applied Entomology and Zoology; Osaka Prefecture University, Sakai, Osaka
- 2016 English Presentation Award Best Award, The 63th Annual Meeting of ESJ in Sendai Japan

- 2015 Best Poster award (Voting Top 2), SWARM 2015: The First International Symposium on Swarm Behavior and Bio-Inspired Robotics
- 2015 Poster award, The 31th Annual Meeting of the Society of Population Ecology
- 2014 English Presentation Award Best Award The 61th Annual Meeting of ESJ in Hiroshima Japan
- 2013 Poster award, The 32th Annual Meeting of the Japan Ethological Society

Teaching experience

Course Instruction and Design

- 2022 **Guest lecture**, The University of Ryukyus, Basic Entomology, for undergraduates, Okinawa, Japan
- 2021 **Instructor**, Okinawa Institute of Science and technology, Okinawa Science Mentoring Program (OSMP) 2021, for high school students, Onna, Okinawa, Japan
- 2020 **Guest lecture**, Arizona State University, Animal Behavior Strategies and Techniques (2020 Spring), for graduates and undergraduates, Tempe, AZ, USA

Graduate project advised

- 2022 Kazuma Takada, Okinawa Institute of Science and Technology
- 2022 Naoyuki Kuwahata, Yamagata University
- 2021 Yasunari Tanaka, Kwansei Gakuin University
- 2020-present Kensei Kikuchi, Okinawa Institute of Science and Technology

Undergraduate projects advised

- 2020 Arturo Rizo, Termite Defense Behavior Adjusting Against Enemies Threats, Arizona State University, 2020
- 2019 Arturo Rizo, Density Affects Partner Search in Termite Tandem Run, Arizona State University, 2019 (published as a paper in *Journal of Animal Ecology*)
- 2019 Marcos De La Monja, Desert Termites Show High Survivability Under Water, Arizona State University, 2019 (presented in a conference)

Teaching Assistant:

- 2014 Office Assistant in the Graduate School of Science, Kyoto University
- 2014 Teaching Assistant in the Graduate School of Science, Kyoto University
- 2013 Teaching Assistant in the Graduate School of Agriculture, Kyoto University

Service

Conference committee

- 2021-2024 The Ecological Society of Japan, Annual Meeting Planning Committee, English session subcommittee (inc. Chair of Behavior session at ESJ69, ESJ70)
- 2023 Reviewer of oral presentation award for postdoc. The 25th Annual Meeting of the Society of Evolutionary Studies
- 2021 Reviewer of poster award. ICMMA 2021

Member of research project as non-PI

- 2020-2023 JICA-JST SATREPS, "The Project on Development of Management Systems for Multiple Utilization of Biodiversity in the Tropical Rainforests at the Protected Areas in Sarawak." PIs: Takao Itioka, Runi Sylvester Pungga (<http://www.kurs50008.sakura.ne.jp/sarawak/en/>)

Workshop organization

- 2023 Japan Eco-Evo English seminar 2023

Seminar organization

- 2021-2022 Japan Eco-Evo English seminar series

Symposium organization

- 2021 Ethological Society Japan
- 2018 Ecological Society Japan
- 2014 Ethological Society Japan

Panelist

- 2022 Fundamentalz fes mini (round table talk with artist/scientist)

Peer Reviews

- Grant/Award Australian Research Council (ARC) Future Fellowships 2024 (2)
The Royal Society University Research Fellowship 2023
HFSP postdoctoral fellowships 2022
ABS student grants 2020
- Journal Animal Behaviour (1), Annals of Entomological Society of America (1), Applied Journal of Entomology and Zoology (2), Artificial Life and Robotics (2), Behavioral Ecology (1), Current Zoology (1), Ecological Entomology (2), Ecological Research (1), Environmental Entomology (1), Insectes Sociaux (3), Journal of Ethology (3), Journal of Evolutionary Biology (1), Journal of the Indian Institute of Science (1), Journal of Insect Science (1), Journal of Theoretical Biology (2), Journal of the Royal Society Interface (1), PeerJ (1), PloS One (1), Proceedings of the National Academy of Science, USA (1), Proceedings of the Royal Society B (2), Royal Society Open Science (2), Scientific Reports (2), Sociobiology (2), Swarm Intelligence (1), Transactions of the Society of Instrument and Control Engineers (1), Zoological Letters (1)
- Proceedings SWARM/DARS 2021

Media

2022 Guest speaker of RADIO program from RBC. (Explain termite life history to general audience)

Presentations

Total x116

International conferences:

24. **Mizumoto N.**, Evolution of termite tandem runs: How Formosan termite differs and is similar to other lineages. 3rd International Conference of the Subterranean Termite: Dr. Minoru Tamashiro Memorial Symposium, Honolulu (US), September 2023, (oral)
- 23 Kikuchi K. & **Mizumoto N.** Nest complexity reflects individual worker behavior of termites. ASAB Winter 2022, Edinburgh (UK), December 2022, (Poster) **Poster award to KK**
- 22 Kikuchi K. & **Mizumoto N.** Nest is an indicator of inherent worker movements in termites. RHINO2022, Tokyo (Japan), September 2022, (Poster)
- 21 Lynch C., Starkey M., Pavlic P., Montgomery D., & **Mizumoto N.** Balancing within- and among-group replicates in designing experiments: Social insect research examples. IUSSI 2022, July 2022, San Diego (USA) (Oral)
20. **Mizumoto N.**, Bourguignon T., Kanao T., The evolution of termite nests promoted the invasion by termitophilous rove beetles, IUSSI 2022, July 2022, San Diego (USA) (Oral)
- 19 Bourguignon T., **Mizumoto N.**, Bailey N., Ancestral sex-role plasticity facilitates the evolution of same-sex sexual behavior, IUSSI 2022, July 2022, San Diego (USA) (Oral)
18. Kikuchi K. & **Mizumoto N.** Nest is an indicator of inherent worker movements in termites. Termite Course 2022, Fort Lauderdale (USA), June 2022, (Oral)
17. Kikuchi K., Kimura A., Mitarai E., Miyazato M., & **Mizumoto N.** Nest is an indicator of inherent worker movements in termites. ISMMA 2021, Online, January 2022, (Poster)
16. Lynch C., Starkey M., Pavlic P., Montgomery D., & **Mizumoto N.** A Study on Optimal Sampling in Multiple Social Insect Colonies with a Model-Based Approach. ABA 2021 Virtual Meeting, August 2021, (Poster)
15. **Mizumoto N.**, Bardunias P. M. & Pratt C. S. Parameter Tuning Facilitates the Evolution of Diverse Tunneling Patterns in Termites. DARS-SWARM 2021, Online, June 2021 (oral)
14. Lynch C., Starkey M. & **Mizumoto N.** A study on optimization sampling in multiple social insect colonies with a model-based approach. ABA 2020 Virtual Meeting, July 2020, (Oral)
13. **Mizumoto N.**, Bardunias P. M. & Pratt C. S. Parallel evolution of termite tunneling with differentiated behavioral rules. ASAB 2019 Summer Conference, August 2019, Konstanz (Germany) (Oral)
12. **Mizumoto N.**, Bardunias P. M. & Pratt C. S. Convergent evolution of tunneling with species-specific algorithms in termites. Behavior 2019, August 2019, Chicago (United States) (Oral)
11. Valentini G., **Mizumoto N.**, Pavlic T.P., Pratt S.C. & Walker S.I. Complex communication: Receiver-sourced signals that regulate information flow during social recruitment. Behavior 2019, August 2019, Chicago (United States) (Oral)

10. **Mizumoto N.** & Dobata S. Pair-forming termites alternate search modes adaptively depending on the informational contexts. International Union for the Study of Social Insects (IUSSI2018), August 2018, Guaruja (Brazil) (Oral)
9. Yashiro T., Lo N., Kobayashi K., Nozaki T., Fuchikawa T., **Mizumoto N.**, Namba Y. & Matsuura K. Lost males in mixed-sex termites societies. Australasian Evolution Society Conference 2017, December 2017, Tasmania (Australia)
8. **Mizumoto N.**, Analyzing barricade construction of primitive termites: task allocation and evolutionary perspectives. SWARM 2017: The Second International Symposium on Swarm Behavior and Bio-Inspired Robotics, October 2017, Kyoto University. (Oral)
7. **Mizumoto N.**, Abe M.S., Nagaya N., Fujisawa R. and Dobata S. Sexually differential movement can enhance mating encounters: potential uses of servosphere for detecting intraspecific variations of walking patterns. SWARM 2017: The Second International Symposium on Swarm Behavior and Bio-Inspired Robotics, October 2017, Kyoto University. (Oral)
6. Fujisawa R., **Mizumoto N.**, Nagaya N. and Dobata S. Measurement System Based on Robotics for Studies of Insect Behavior. SWARM 2017: The Second International Symposium on Swarm Behavior and Bio-Inspired Robotics, October 2017, Kyoto University. (Oral)
5. **Mizumoto N.**, Abe M. S., Nagaya N., Fujisawa R. & Dobata S. Sex difference in movement patterns can enhance mating encounters. Behaviour 2017, Estoril (Portugal), August 2017 (Oral)
4. **Mizumoto N.**, Kobayashi K. & Matsuura K. Intraspecific variation of termite shelter-tube structures: building mechanism and its organization in their society. XXV International Congress of Entomology (ICE2016) (Orlando, Florida, USA) September, 2016 (Oral)
3. **Mizumoto N.**, Sato R., Nagaya N., Abe M. S., Dobata S. & Fujisawa R. Tracking movement of individual insects with an omnidirectional treadmill mechanism. SWARM 2015: The First International Symposium on Swarm Behavior and Bio-Inspired Robotics, October 2015, Kyoto University. (Poster)
2. **Mizumoto N.**, Kobayashi K. & Matsuura K. Termite constructs colony specific structures in shelter tube construction. SWARM 2015: The First International Symposium on Swarm Behavior and Bio-Inspired Robotics, October 2015, Kyoto University. (Oral)
1. **Mizumoto N.**, Kobayashi K. & Matsuura K. Emergence of colony-specific architectures in termite shelter-tube construction International Union for the Study of Social Insects (IUSSI14) (Cairns) July 13-18, 2014 (Oral)

Domestic conferences in English:

22. **Mizumoto N.**, Kikuchi K, Hellemans, Bourguignon T., Bailey N., Evolution of leader-follower role in termite tandem runs. Entomology 2023, Nov 2023, National harbor, MD, USA (oral)
21. Gazdick K., Lee S.B., **Mizumoto N.**, Chouvenc T., Su N. Y., Foraging behavior of *Coptotermes formosanus* and its ability to intercept in-ground bait. Entomology 2023, Nov 2023, National harbor, MD, USA (oral)
20. Gazdick K., Lee S.B., **Mizumoto N.**, Chouvenc T., Su N. Y., 104th annual meeting of the Florida Entomological Society, Aug 2023,
19. Kikuchi K. and **Mizumoto N.**, Individual termite movements reflect nest complexity evolution. The 25th Annual Meeting of the Society of Evolutionary Studies, Japan (Okinawa), Sep. 2023

18. Kikuchi K., **Mizumoto N.**, Nest complexity reflects individual worker behavior of termites, Ecological Society of Japan, March 2023, Online (Oral) **Best presentation award to KK**
17. **Mizumoto N.**, Buček A., Quantifying behavior of extinct organisms captured in amber by empirically simulating entrapment process of extant relatives, Ecological Society of Japan, March 2023, Online (Poster)
16. Taniguchi H., et al., Evolution of sideways movements in crabs: ancestral state reconstruction of behavioral traits from extant species, Ecological Society of Japan, March 2023, Online (Poster)
15. **Mizumoto N.**, Bourguignon T., Bailey N., Flexible sexual role maintains same-sex pairing in termites, Ecological Society of Japan, March 2022, Online (Poster)
14. **Mizumoto N.** Same-sex pairing is maintained by acting the other sex in termites. Ethological Society Japan, September 2021, Online (Poster)
13. **Mizumoto N.**, Bardunias P. M. & Pratt C. S. Complex relationship between tunneling patterns and individual behaviors in termites. Evolution Society Japan, September 2020, Online
12. De La Monja M., **Mizumoto N.**, Pratt C. S. Desert termites show high survivability under water. BioSci Southwest, November 2019, Tempe
11. **Mizumoto N.**, Bardunias P. M. & Pratt C. S. Convergent evolution of termite tunneling with differentiated behavioral rules. ESA 2019, November 2019, St. Louis (United States)
10. **Mizumoto N.**, Dobata S. Termite search strategies when a mating pair gets separated. The Annual Meeting of the Japanese Society of Applied Entomology & Zoology (Kagoshima) Mar. 2018 (Oral) **Best Presentation Award**
9. **Mizumoto N.**, Dobata S. Searching strategy when a mating pair get separated in termites. The Annual Meeting of the Society of Population Ecology (Fukuoka) Oct. 2017 (Poster)
8. **Mizumoto N.**, Abe M. S. & Dobata S. Mutual search optimization drives evolution of sexual differential movement patterns. The Annual Meeting of the Ecological Society of Japan (Tokyo) Mar. 2017 (Oral)
7. Matsuura K., **Mizumoto N.**, Nozaki T., Fujita T., Kobayashi K. and Yashiro T. Can insects live longer than 100 years? The Annual Meeting of the Ecological Society of Japan (Tokyo) Mar. 2017 (Oral)
6. **Mizumoto N.**, Yashiro T. & Matsuura K., The Annual Meeting of the Japan Ethological Society (Nigata) Nov. 2016 (Poster)
5. **Mizumoto N.** The mechanism creating intraspecific variation of termite building structures provides the evolutionary perspectives of collective behavior. The Annual Meeting of the Society of Population Ecology (Hokkaido) Nov. 2016 (Oral)
4. **Mizumoto N.**, Yashiro T. & Matsuura K. The adaptive significance of male same-sex partnership in termites. The Annual Meeting of the Society of Population Ecology (Hokkaido) Nov. 2016 (Poster) **Best Poster Award**
3. **Mizumoto N.**, Yashiro, T. & Matsuura, K. Male homosexual pairs of termites cooperate for survival and future reproduction. The Annual Meeting of the Japanese Society of Applied Entomology & Zoology Mar. 2016 (Oral) **English presentation award**
2. **Mizumoto N.**, Sato R., Nagaya N., Abe M. S., Dobata S. & Fujisawa R. Can sex difference in movement patterns really enhance mating encounters? Yes! The Annual Meeting of the Ecological Society of Japan (Miyagi) Mar. 2016 (Oral) **Best English presentation award**

1. **Mizumoto N.** & Matsuura K. Colony-specificity of shelter-tube construction in termites. The Annual Meeting of the Ecological Society of Japan (Hiroshima) Mar. 2014 (Oral) **Best English presentation award**

Domestic conferences (in Japanese):

25. Taniguchi J., Inoue T., Hung J-F., Hirai A., **Mizumoto N.**, Takeshita F., Kawabata Y., Evolution of movement directions in crabs: restructuring the ancestral state from the behavioral traits of extant species. The 42th Annual Meeting of the Japan Ethological Society (Kyoto), Nov. 2023
24. Kikuchi K. and **Mizumoto N.**, 巣構造（自己組織化）の違いとシロアリ行動パターンの進化 The 94th Annual Meeting of the Zoological Society of Japan (Yamagata), Sep. 2023
23. Taniguchi J., Inoue T., Hung J-F., Hirai A., **Mizumoto N.**, Takeshita F., Kawabata Y., Evolution of movement directions in crabs: restructuring the ancestral state from the behavioral traits of extant species. The 25th Annual Meeting of the Society of Evolutionary Studies, Japan (Okinawa), Sep. 2023
22. Inoue T, Taniguchi J., Hung J-F, **Mizumoto N.**, Hirai A., Takeshita F., Sato T., Kawabata Y., Ecological Society of Japan, March 2023, Online (Poster)
21. Inoue T, Taniguchi J., Hung J-F, **Mizumoto N.**, Hirai A., Takeshita F., Sato T., Kawabata Y., The Annual Meeting of the Japan Ethological Society (Fukuoka) Oct. 2022 (Oral)
20. Kikuch K., **Mizumoto N.**, The Annual Meeting of the Society of Population Ecology (Yokohama) Oct. 2022 (Poster)
19. Inoue T, Taniguchi J., Hung J-F, **Mizumoto N.**, Hirai A., Takeshita F., Sato T., Kawabata Y., The Annual Meeting of the Carcinological Society of Japan (Okayama) Sep. 2022 (Poster)
18. **Mizumoto N.**, The Annual Meeting of the Japan Ethological Society (Tokyo) Sep. 2021 (Oral) (**Invited**)
17. **Mizumoto N.**, FY2020 JSPS IKUSHI Prize presentation (Online) Mar. 2021 (Poster)
16. **Mizumoto N.**, FY2020 JSPS IKUSHI Prize presentation (Online) Mar. 2021 (Oral)
15. Matsuura K., **Mizumoto N.**, The Annual Meeting of the Ecological Society of Japan (Hokkaido) Mar. 2018 (Oral)
14. **Mizumoto N.**, The Annual Meeting of the Ecological Society of Japan (Hokkaido) Mar. 2018 (Oral)
13. Fujisawa R., Kawano Y., Otsuki K., **Mizumoto N.**, Abe S. M., Dobata S. & Nagaya N., SSI2017 (Shizuoka) Nov. 2017 (Poster)
12. **Mizumoto N.**, The Annual Meeting of the Japan Ethological Society (Tokyo) Aug. 2017 (Oral) (**Invited**)
11. **Mizumoto N.**, Abe, S. M. & Dobata, S. The Annual Meeting of the Society of Evolutionary Studies, Japan (Kyoto) Aug. 2017 (Oral)
10. **Mizumoto N.**, Fuchikawa, T. & Matsuura, K. The Annual Meeting of the Japanese Society of Applied Entomology & Zoology (Tokyo) Mar. 2017 (Oral)
9. **Mizumoto N.**, The Annual Meeting of the Japanese Society of Applied Entomology & Zoology (Osaka) Mar. 2016 (Oral) (**Invited**)
8. **Mizumoto N.**, The Annual Meeting of the Ecological Society of Japan (Miyagi) Mar. 2016 (Oral) (**Invited**)
7. **Mizumoto N.**, Dobata S., Sato R., Fujisawa R, Abe S. M. & Nagaya N., The Annual Meeting of the Japan Ethological Society (Tokyo) Nov. 2015 (Poster)

6. **Mizumoto N.** & Dobata S., The Annual Meeting of the Society of Population Ecology (Shiga) Oct. 2015 (Poster) **Poster award**
5. **Mizumoto N.** & Matsuura K., The Annual Meeting of the Ecological Society of Japan (Kagoshima) Mar. 2015 (Poster)
4. **Mizumoto N.**, Iwata C., Kobayashi K. & Matsuura K., The Annual Meeting of the Japan Ethological Society (Nagasaki) Nov. 2014 (Oral)
3. **Mizumoto N.** & Matsuura K., The Annual Meeting of the Kinki Branch of Ecological Society of Japan (Shiga) Dec. 2013 (Oral)
2. **Mizumoto N.** & Matsuura K., The Annual Meeting of the Japan Ethological Society (Hiroshima) Nov. 2013 (Poster) **Best poster award**
1. **Mizumoto N.** & Matsuura K., The Annual Meeting of the Japanese Society of Applied Entomology & Zoology (Tokyo) Mar. 2013 (Oral)

Seminars and Invited Talks

45. Alabama Pest Control Association Winter Meeting, Feb. 2024
44. The University of Tokyo, Komaba seminar, Dec. 2023
43. University of Sydney, School of Life and Environmental Sciences, Oct. 2023
42. How do you balance your focus on conceptual questions with focus on questions motivated by the organisms you study? The 25th Annual Meeting of the Society of Evolutionary Studies, Japan (Okinawa), Sep. 2023 (Invited Lecture)
41. Kyoto University, Laboratory of Insect Ecology, Kakuchi-seminar, Jul. 2023
40. Florida Atlantic University, Department of Biological Sciences, Mar. 2023 (**all expenses paid**)
39. Auburn University, Department of Entomology and Plant Pathology, Feb. 2023 (**all expenses paid**)
38. OIST Mini Symposium, "Phylogeny and Classification of Termites," Nov. 2022
37. Collective Intelligence in Living/Non-Livings Populations, OIST, invited speaker, Nov. 2022
36. Roles of Heterogeneity in Nonequilibrium Collective Dynamics 2022 (RHINO2022), Tokyo, invited speaker, Sep. 2022 (**all expenses paid**)
35. Nagasaki University, Faculty of Fisheries, May 2022
34. National Institute for Basic Biology in Japan, online, Apr. 2022
33. Virginia Tech University, Department of Entomology, Feb. 2022 (**all expenses paid**)
32. Mississippi State University, Department of Biology, online, Feb. 2022
31. University of South Florida, Department of Integrative Biology, online, Jan. 2022
30. ICMMA 2021, online, invited speaker, Jan. 2022 (**all expenses paid**)
29. EU-IUSSI online symposium series, Oct. 2021
28. University of St. Andrews, online, Sep. 2021
27. OIST Internal Seminar Series, July 2021
26. Fundamentalz bazaar, June 2021
25. Termite Reading Group, May 2021
24. The Annual Meeting of the Ecological Society of Japan (Online), Award lecture, Mar. 2021
23. The Annual Meeting of the Japan Ethological Society (Online), Award lecture, Nov. 2020
22. University of Tsukuba (Online), 69th Tsukuba Evolutionary Ecology Seminar, Sep. 2020 (**all expenses paid**)
21. Okinawa Institute of Science and Technology (OIST), Science Digests, Sep. 2020
20. Arizona State University, Social Insects Research Group, Jan. 2020
19. OIST, Ecology and Evolution of Termite Gut Microbes, Dec. 2019 (**all expenses paid**)
18. Tokyo Metropolitan University, Nov. 2019

17. University of Konstanz, Aug. 2019
16. University of Georgia, Jun. 2019
15. University of Florida, Termite Course 2019, Jun. 2019
14. University of California, Los Angeles, May 2019
13. USDA ALARC, Apr. 2019
12. University of Florida, Mar. 2019
11. University of Arizona, Jun. 2018
10. Arizona State University, Social Insects Research Group, Apr. 2018
9. Hiroshima University, Feb. 2018
8. Okinawa Institute of Science and Technology (OIST), Oct. 2017
7. Hachinohe Institute of Technology, Apr. 2017
6. The University of Tokyo, Sep. 2016
5. Hiroshima University, Dec. 2015 (**all expenses paid**)
4. Tokyo Institute of Technology, Nov. 2015
3. Naruto University of Education, Sep. 2015
2. Texas A&M University, Apr. 2015
1. Kyoto University, Laboratory of Insect Ecology, Kakuchi-seminar, Mar. 2014

Selected Media Coverage

- 2022 The evolution of body size in termites. *Proceedings of the Royal Society B*, Phys.org, LeNTA.RU, ScienceDaily, SCIENMAG, MIRAGE
- 2021 Coordination of movement via complementary interactions of leaders and followers in termite mating pairs. *Proceedings of the Royal Society B*, PCT, futurity, South Central Florida Life, Phys.org, Florida News Times
- 2019 Inferring collective behavior from a fossilized fish shoal. *Proceedings of the Royal Society B*, Nature, ScienceNews, The New York Times, The Atlantic, Popular Science
- 2019 Adaptive switch to sexually dimorphic movements by partner-seeking termites. *Science Advances*, KJZZ
- 2016 Male same-sex pairing as an adaptive strategy for future reproduction in termites. *Animal Behaviour*, UPI, IFL Science!
- 2013 Colony-specific architecture of shelter tubes by termites. *Insectes Sociaux*, Science

References

*Alphabetical order (in last name)

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