

Nobuaki Mizumoto, Assistant Professor

Department of Entomology & Plant Pathology
Auburn University
AG STEM 3202; 305 W. Samford Ave.
Auburn AL 36849

Tel: 334-844-5032

E-mail: nzm0095@auburn.edu

Website: mizumoto-lab.com

Professional Appointments

2024-Present	Assistant Professor Department of Entomology & 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

(37 first/co-first, 35 corresponding, Google Scholar metrics: citation = 977, h-index = 20)

2026

55. **Mizumoto N.***, Kaliang C. H. & Kanao T. (2026) Hidden role plasticity of the reproductive caste in a morphologically differentiated termite society. *OIKOS* doi: [10.1002/oik.12492](https://doi.org/10.1002/oik.12492)
54. Taniguchi J. #, Inoue T. #, Kohara K., Hung J-F., Hirai A., **Mizumoto N.**, Takeshita F., Kawabata Y.* (2026) Evolution of sideways locomotion in crabs. *eLife* (reviewed preprint), doi: [10.7554/eLife.110015.1](https://doi.org/10.7554/eLife.110015.1)
53. **Mizumoto N.***, Arimoto K., Kaliang C. H. & Kanao T. (2026) Independent evolution of a living bridge in the Old World army ant lineage. *The Science of Nature*, 113(2):28 doi: [10.1007/s00114-026-02085-4](https://doi.org/10.1007/s00114-026-02085-4)
52. Satoh A. *, Planas-Sitja I., Cronin A. L. & **Mizumoto N.** (2026) Variation in soldier investment is linked to the evolution of termite soldier defense strategies. *Evolutionary Ecology*, 40(21) doi: [10.1007/s10682-026-10386-3](https://doi.org/10.1007/s10682-026-10386-3); Featured Paper (April-May 2026)
51. **Mizumoto N.*** (2026) Evaluating mate encounter and walking dispersal dynamics of termites using posture tracking and behavioral simulation. *Journal of Pest Science*, 99: 57 doi: [10.1007/s10340-026-02023-3](https://doi.org/10.1007/s10340-026-02023-3)

2025

50. Carroll E., Kanao T., Lo N. & **Mizumoto N.*** (2026) Diversification of pre-mating behaviors through temporal reordering of components. *Proceedings of the Royal Society B*, 293(2066): 20252738 doi: [10.1098/rspb.2025.2738](https://doi.org/10.1098/rspb.2025.2738)
49. **Mizumoto N.***, Yashiro T. & Hellemans S., (2026) Loss of pair formation predates the evolution of male-less society in termites. *Evolution*, 80(2): 460-471 DOI:[10.1093/evolut/qpaf248](https://doi.org/10.1093/evolut/qpaf248)
48. Kikuchi K. #, Bourguignon T., & **Mizumoto N.*** (2025) Nesting strategy reflects individual worker movement in termites. *Movement Ecology*, 13, 88: [10.1186/s40462-025-00612-y](https://doi.org/10.1186/s40462-025-00612-y)
47. **Mizumoto N.*** & Reiter S., (2025) Maintaining tandem movement cohesion through antennal movements in termites. *Journal of the Royal Society Interface*, 22(232):20250487, DOI: [10.1098/rsif.2025.0487](https://doi.org/10.1098/rsif.2025.0487); Cover article
46. Lynch C. M. #, Starkey M., Montgomery D., Pavlic T. P. & **Mizumoto N.** (2025) More individuals or more groups? Incorporating sampling effort, statistical power, and model accuracy when designing experiments. *Behavioral Ecology and Sociobiology*, 79:106, DOI: [10.1007/s00265-025-03640-1](https://doi.org/10.1007/s00265-025-03640-1)
45. Mirza E., Jasso-Selles D., **Mizumoto N.** & Gile G. #, (2025) Intragenomic 18S sequence variability in the termite symbionts *Kofoidia loriculata* and *Kofoidia repleta* n. sp. (Parabasalia). *Journal of Eukaryotic Microbiology*, 72(5):e70039, DOI: [10.1111/jeu.70039](https://doi.org/10.1111/jeu.70039)
44. **Mizumoto N.***, Chambliss W., Carroll E. P., Nakazono T. & Kanao T., (2025) Observation of tandem running behavior in dealates of Asian dampwood termite, *Hodotermopsis sjostedti*. *Journal of Ethology*, 43, 239–245, DOI: [10.1007/s10164-025-00857-5](https://doi.org/10.1007/s10164-025-00857-5)

2024

43. **Mizumoto N.*** & Nozaki T. (2024) The significance of social interactions in synchronized swarming flight in a termite. *Biology Letters*, 20:20240423, DOI: [10.1098/rsbl.2024.0423](https://doi.org/10.1098/rsbl.2024.0423)
42. 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. (2024) Predation-driven geographical isolation of broods in periodical cicadas. *Scientific Reports*, 14(1): 27071, DOI: [10.1038/s41598-024-75247-x](https://doi.org/10.1038/s41598-024-75247-x)
41. Gazdick K.*, Lee S.B., **Mizumoto N.**, Chouvenc T. & Su N. Y. (2024) Subterranean termites (*Coptotermes formosanus*) colonies can readily intercept bait stations while following label recommendations through their foraging abilities. *Journal of Economic Entomology*, toae259, DOI: [10.1093/jee/toae259](https://doi.org/10.1093/jee/toae259)
40. **Mizumoto N.***, Nagaya N. & Fujisawa R. (2024) Wasted efforts impair random search efficiency and reduce choosiness in mate-pairing termites. *The American Naturalist*, 204(6):0-11, DOI: [10.1086/732877](https://doi.org/10.1086/732877)
39. **Mizumoto N.***, Lee S-B. # & Chouvenc T. (2024) The strength of sexual signals predicts same-sex pairing in two *Coptotermes* termites. *Behavioral Ecology*, 35(5): arae067, DOI: [10.1093/beheco/arae067](https://doi.org/10.1093/beheco/arae067)
38. **Mizumoto N.*** & Reid C. (2024) Ant and termite collective behavior: group-level similarity arising from individual-level diversity. *Ecological Research*, 39(5): 646-658, DOI: [10.1111/1440-1703.12510](https://doi.org/10.1111/1440-1703.12510) Top Viewed article in 2024 in Ecological Research.
37. 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., Cancellato E., Roisin Y., Engel M. S., Bourguignon T.* (2024) Genomic data bring a new dawn to the classification of extant termites. *Nature Communications*, 15(1): 6724, DOI: [10.1038/s41467-024-51028-y](https://doi.org/10.1038/s41467-024-51028-y)
36. **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*, 121(12): e2308922121, DOI: [10.1073/pnas.2308922121](https://doi.org/10.1073/pnas.2308922121)

2023

35. 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)
34. **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)
33. **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

32. **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)
 31. **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)
 30. 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)
 29. 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)
 28. **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
27. 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)
 26. **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)
 25. **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
24. 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)
 23. **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)
 22. 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)
 21. **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)
 20. **Mizumoto N.***, Bardunias P.M. & Pratt S.C. (2020) Complex relationship between tunneling patterns and individual behaviors in termites. *The American Naturalist*, 196(5): 555-565, DOI: [10.1086/711020](https://doi.org/10.1086/711020)

19. **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)
 18. 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
17. 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)
 16. Mee E. D., Gaylor M. G., Jasso-Selles D. E., **Mizumoto N.** & Gile G. H.* (2019) Molecular phylogenetic position of *Hoplonympha natator* (Trichonymphea, Parabasalia). *Journal of Eukaryotic Microbiology* 67: 268-272 DOI:[10.1111/jeu.12765](https://doi.org/10.1111/jeu.12765)
 15. **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)
 14. **Mizumoto N.*** & Dobata S. (2019) Adaptive switch to sexually dimorphic movements by partner-seeking termites. *Science Advances* 5: eaau6108 DOI: [10.1126/sciadv.aau6108](https://doi.org/10.1126/sciadv.aau6108)
 13. **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](https://doi.org/10.2502/janip.69.2.4) [content in Japanese]
- 2018
12. **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)
 11. 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)
 10. **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)
 9. 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
8. 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)
 7. **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)

6. 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)
 5. **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)
 4. **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.35.448](https://doi.org/10.7210/jrsj.35.448) [content in Japanese]
- ~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)

Papers in non-refereed Journals

2. Fujioka H., **Mizumoto N.** & Kass J. M.* (2025) Japan Eco-Evo English Seminar (JEEES): a platform for international science exchange and professional development in Japan. *Japanese Journal of Ecology* DOI:[10.18960/seitai.2402](https://doi.org/10.18960/seitai.2402) [title and abstract are available in English, content in Japanese]
1. **Mizumoto N.** (2024) A report on *Glyptotermes nakajimai* from Oi-cho and Wakasa-cho. *Bulletin of The Fukui City Museum of Natural History*, 71: [77-80](#). [title and abstract are available in English; content in Japanese]

Preprints (submitted to the journal, not accepted yet)

5. **Mizumoto N.** & Carroll E.P. (2026) Beyond mistakes: same-sex partner acceptance and broad mating filters coexist in termite pairing. EcoEvoRxiv: [10.32942/X28T0C](https://doi.org/10.32942/X28T0C) (submitted to *Philosophical Transactions of the Royal Society B*)
4. **Mizumoto N.** & Kamimoto S. (2026) Body-like coordination emerges in paired termite locomotion. bioRxiv: [10.64898/2026.05.22.727143](https://doi.org/10.64898/2026.05.22.727143) (submitted to *PNAS*)
3. **Mizumoto N.** (2026) Colony phase structure favors permanent worker evolution in juvenile social systems. bioRxiv: [10.64898/2026.04.24.720620](https://doi.org/10.64898/2026.04.24.720620) (submitted to *Proceedings B*)
2. Hu X-P. & **Mizumoto N.**^{*} (2026) Four decades of inland invasion by the Formosan subterranean termite in Alabama: expansion associated with transportation infrastructure. EcoEvoRxiv: [10.32942/X21H4M](https://doi.org/10.32942/X21H4M) (under review in *Urban Ecosystem*)

1. Shrestha S., Mascarin G.M., Oswalt K., Dormitorio T., **Mizumoto N.**, Beckmann J.F., Coleman J.* (2025) Virulence of nine isolates of *Beauveria* spp. against diverse insect hosts from four orders.

Encyclopedia contributions

4. **Mizumoto N.** (2025) "Self-organization in animal collective behavior." In *Dōbutsu no Kōdō to Kokoro no Jiten (Encyclopedia of Animal Behavior and Mind)*, ed. Tsuji K. et al., pp. 64-67. Asakura Shoten, Tokyo (originally in Japanese: 動物の集団行動における自己組織化)
3. **Mizumoto N.** (2025) "The secret walking patterns of termite couples." In *Dōbutsu no Kōdō to Kokoro no Jiten (Encyclopedia of Animal Behavior and Mind)*, ed. Tsuji K. et al., pp. 78-79. Asakura Shoten, Tokyo (originally in Japanese: シロアリのカップルが誕生する歩き方の秘密)
2. Murakami H. & **Mizumoto N.** (2025) "What is schooling?" In *Dōbutsu no Kōdō to Kokoro no Jiten (Encyclopedia of Animal Behavior and Mind)*, ed. Tsuji K. et al., pp. 298-299. Asakura Shoten, Tokyo (originally in Japanese: スクーリングとは)
1. **Mizumoto N.** (2025) "Autonomous decentralized organization in social insects." In *Dōbutsu no Kōdō to Kokoro no Jiten (Encyclopedia of Animal Behavior and Mind)*, ed. Tsuji K. et al., pp. 346-347. Asakura Shoten, Tokyo (originally in Japanese: 社会性昆虫の自律分散)

Outreach publications

10. **Mizumoto N.** (2027) A large society begins with just two termites: Part 4 - the secret of termite pair formation. *agreeable* 81: 2-3 [originally in Japanese, 巨大な社会は2匹から始まる 第4回 シロアリのペア形成の秘密]
9. **Mizumoto N.** (2026) A large society begins with just two termites: Part 3 - the secret of termite pair formation. *agreeable* 80: 2-3 [originally in Japanese, 巨大な社会は2匹から始まる 第3回 シロアリのペア形成の秘密]
8. **Mizumoto N.** (2026) A large society begins with just two termites: Part 2 - the secret of termite pair formation. *agreeable* 79: 2-3 [originally in Japanese, 巨大な社会は2匹から始まる 第2回 シロアリのペア形成の秘密]
7. **Mizumoto N.** (2026) A large society begins with just two termites: Part 1 - the secret of termite pair formation. *agreeable* 78: 2-3 [originally in Japanese, 巨大な社会は2匹から始まる 第1回 シロアリのペア形成の秘密] https://www.hakutaikyo.or.jp/library_agreeable/agreeable78
6. **Mizumoto N.** (2022) Rendezvous search in termites. *Communications of the Operations Research Society of Japan* 67: 167-171 [originally in Japanese, translated by NM]
5. **Mizumoto N.** (2019) The social life of a fish shoal in ancient times. *The ScienceBreaker* DOI:[10.25250/thescbr.brk291](https://doi.org/10.25250/thescbr.brk291)
4. **Mizumoto N.** (2018) Thesis extended summary: Studies on the Pattern Formation Algorithm of Searching and Construction Behaviors. *Shiroari* 170: 36-41 [content in Japanese]
3. **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]
2. **Mizumoto N.** (2017) Fingers crossed. How do males and females move to search for partners 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

- 6 **Mizumoto N.** (2025) What brings you to Alabama? *Society of Evolutionary Studies, Japan News* 26(1) 26-30 [originally in Japanese, translated by NM]
- 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. *JIUSI*

Grants and Awards

Grants

- | | |
|-----------|---|
| 2026-2030 | NSF DEB Evo Patterns & Processes, "An integrative approach towards the evolutionary origin of termite collective building", \$1,000,000, PI: Mizumoto N. , 2611846 |
| 2024-2026 | FY 2025 AAES AgR-SEED Grant, Auburn University, Alabama Agricultural Experiment Station, 50,000 USD, Evaluating tunneling behavior of subterranean pest termites compared with closed and distant relatives: Developing a trap to capture drywood termites to prevent initial infestation, PI: Mizumoto N. |
| 2024 | Auburn University SEC Faculty Travel Grant Program, The Office of the Provost and the Office of the Senior Vice President for Research & Economic Development, Auburn University, 3,740 USD |
| 2024 | Christopher Barnard Award for 2024, The Association for the Study of Animal Behaviour (ASAB), 1,000 EUR (1,080 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. (withdraw for moving to AU) |
| 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 (withdraw in 2023 for moving to AU) |

- 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.** (withdraw in 2023 for moving to AU)
- 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 (withdraw in 2023 for moving to AU)
- 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 (withdraw in 2023 for moving to AU)
- 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

- 2026 **Instructor**, ENTM 7960/8960, Journal Paper Writing, Department of Entomology & Plant Pathology, Auburn University
- 2025 **Instructor**, ENTM 7960/8960, Quantifying Insect Behavior, Department of Entomology & Plant Pathology, Auburn University
- 2025 **Guest speaker**, 4th International Termite Course
- 2024 **Guest lecture**, APBT 1000 Introduction to Applied Biotechnology, Department of Entomology & Plant Pathology, Auburn University
- 2024 **Instructor**, ENTM 6220, Insect Ecology, Department of Entomology & Plant Pathology, Auburn University
- 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

- 2024~ Elijah Carroll, PhD in Entomology, Department of Entomology & Plant Pathology, Auburn University
- 2024~ Rebecca Valentine, Master in Entomology, Department of Entomology & Plant Pathology, Auburn University
- 2022 Kazuma Takada, Okinawa Institute of Science and Technology
- 2022 Naoyuki Kuwahata, Yamagata University
- 2021 Yasunari Tanaka, Kwansei Gakuin University

2020~2025 Kensei Kikuchi, Okinawa Institute of Science and Technology

Committee of graduate students

2025~2026 Darmon Kahvazadeh, Master in Entomology, Department of Entomology & Plant Pathology, Auburn University

2025~2026 Zimo Yang, Master in Entomology, Department of Entomology & Plant Pathology, Auburn University

2026 Vinta Gupta, Master in Entomology, Department of Entomology & Plant Pathology, Auburn University

2026- Lilley Brookshire, Master in Entomology, Department of Entomology & Plant Pathology, Auburn University

2026- Pryce Millikin, PhD in Entomology, Department of Entomology & Plant Pathology, Auburn University

Undergraduate projects advised

2025~2026 Mary Goldman, Body size evolution in termites and cockroaches, Auburn University

2025~ Solana Hosburgh, Effect of light on termite tunneling strategy, Auburn University

2025~2026 Daniel Yuan, Analysis of *Coptotermes* tandem running, Auburn University

2025 William Chambliss, Video tracking of termite behavior, Auburn University

2019~2020 Arturo Rizo, Arizona State University

2019 Marcos De La Monja, Arizona State University

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

2026- International liaison: The Japanese section of The International Union for the Study of Social Insects

2025 Judge of Undergraduate Poster Competition - 2025 Southeastern Branch Meeting of Entomological Society of America (Baton Rouge, LA, USA), Mar 2025

2024 Moderator of 10-min: SysEB, Behavior - Social Insects at Entomology 2024 (Phoenix, AZ, USA), Nov 2024

2021-2024	The Ecological Society of Japan, Annual Meeting Planning Committee, English session subcommittee (inc. Chair of Behavior session at ESJ69, ESJ70, Chair of Animal Community session at ESJ71).
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 a research project as a non-PI

2024-	Surveying Termite Diversity in the Southern US Working Group. PIs: Aaron Ashbrook, Santos Portugal, Anamika Sharma
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 Punga (http://www.kurs50008.sakura.ne.jp/sarawak/en/)

Member of Scientific Societies

• The Association for the Study of Animal Behaviour	2025- (lifetime membership)
• Entomological Society of America	2019-2020, 2023-
• The International Union for the Study of Social Insects	
○ The Japanese Section	2014-
○ North American Section	2018-2020, 2025-
• Society for the Study of Evolution	2017-2021, 2025-
• Society of Evolutionary Studies, Japan	2017-2024
• Japan Ethological Society	2013-2023
• The Ecological Society of Japan	2013-2024
• The Society of Population Ecology	2015-2023
• The Japanese Society of Applied Entomology & Zoology	2012-2020
• The Animal Behavior Society	2019-2020

Workshop organization

2023	Japan Eco-Evo English seminar 2023
------	------------------------------------

Seminar organization

2021-2022	Japan Eco-Evo English seminar series
-----------	--------------------------------------

Symposium organization

4. **Mizumoto N.**, Li-Byarlay H. & Doering G. N., Tracing the evolution of social behavior through comparison across species, ICE2024: XXVII International Congress of Entomology (Kyoto, Japan), Aug 2024, organized a 2-hour session with 6 invited and 2 contributed talks.
3. **Mizumoto N.** & Kikuchi K., アート×動物行動学：科学の外にある表現方法の可能性, The 40th Annual Meetings of the Ethological Society Japan (Online), Sep 2021, organized 2-hour session with 5 invited speakers and 1 commentator

2. **Mizumoto N.** & Suzuki T., 構成的アプローチによる行動進化の仮説検証, ESJ65: The Annual Meeting of the Ecological Society of Japan (Hokkaido, Japan) Mar. 2018 (Oral), organized a 2-hour session with 4 invited speakers
1. Fujisawa R. & **Mizumoto N.**, まだ、ここにはない、群れ～生物学と工学の連携から見えてくる群れ研究のブレイクスルー～, The 33rd Annual Meeting of the Japan Ethological Society (Nagasaki, Japan) Nov 2014, organized a 2-hour session with 4 invited speakers

Panelist

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

External PhD thesis examiner

1. Thomas Green, 2026, University of St. Andrews, UK

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), Biology Letters (3), Biology Open (1), BioSystems (1), Bulletin of Entomological Research (1), Current Biology (1), Current Opinion in Insect Science (1), Current Zoology (1), Entomologia Experimentalis Et Applicata (2), Ecological Entomology (5), Ecological Research (1), Environmental Entomology (2), Evolution (1), Insectes Sociaux (8), Integrative and Comparative Biology (1), Journal of Economic Entomology (1), Journal of Ethology (4), Journal of Evolutionary Biology (1), Journal of the Indian Institute of Science (3), Journal of Insect Science (1), Journal of Pest Science (1), Journal of Theoretical Biology (4), Journal of the Royal Society Interface (3), Movement Ecology (2), PNAS Nexus (3), PeerJ (1), Pest Management Science (1), PloS One (2), Proceedings of the National Academy of Science, USA (1), Proceedings of the Royal Society B (5), Royal Society Open Science (4), Scientific Reports (4), Sociobiology (1), Swarm Intelligence (1), The American Naturalist (1), Transactions of the Society of Instrument and Control Engineers (2), Zoological Letters (2) (counted revisions separately)
[2026 (12), 2025 (8), 2024 (14), 2023 (9), 2022 (10), 2021 (11), 2020 (6)]

Proceedings SWARM/DARS 2021

Media

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

Service at Auburn University

Judge for the 2026 Auburn University Research Symposium

Judge for poster presentation in 2025 Plants, Insects and Microbes Symposium

Judge for poster presentation in 2024 Plants, Insects and Microbes Symposium
Judge for the 2025 Auburn University Research Symposium

Presentations

Plenary talks in the professional meetings:

4. **Mizumoto N.**, Plenary: Christopher Barnard Award Winner, Evolutionary perspectives of termite collective behavior. ASAB (the Association for the Study of Animal Behaviour) Spring Conference 2024 (Exeter, UK), Apr 2024
3. **Mizumoto N.**, Invited lecture: 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
2. **Mizumoto N.**, Award lectures: Evolutionary perspectives of collective animal behavior. ESJ68: The Annual Meeting of the Ecological Society of Japan (Online), Mar 2021
1. **Mizumoto N.**, Award lectures: 配偶者探索における雌雄の動きのパターンと遭遇率の研究, The 39th Annual Meeting of the Japan Ethological Society (Online), Nov 2020

Invited talks in the professional meetings:

19. **Mizumoto N.**, Paired, individual, and collective-decision making by dispersing termites. 20th International Congress of the IUSSI (Germany)
18. Hellemans S., Yashiro T. & **Mizumoto N.**, Altered colony initiation enabled the evolution of fully asexual lineages in termites. 20th International Congress of the IUSSI (Germany)
17. **Mizumoto N.** & Kamimoto S., Body-Like Coordination Emerges in Paired Termite Locomotion. 2026 SIAM (Society for Industrial and Applied Mathematics) Annual Meeting (OH), Jul 2026 (25-minute talk in a mini-symposium)
16. **Mizumoto N.**, Evaluating termite dispersal walking using posture tracking dataset. Entomology 2025 (Portland, OR, USA), Nov 2025 (15-minute talk in a symposium)
15. Carroll E., Chouvenc T. & **Mizumoto N.**, Mate pairing between two drywood termite species with distinct nest site requirements. Entomology 2025 (Portland, OR, USA), Nov 2025 (15-minute talk in a symposium)
14. **Mizumoto N.**, Nest types. International Termite Course 2025 (Fort Lauderdale, FL, USA), June 2025 (20-minute talk)
13. **Mizumoto N.**, Courtship behaviors. International Termite Course 2025 (Fort Lauderdale, FL, USA), June 2025 (35-minute talk)
12. **Mizumoto N.**, Video tracking reveals behavioral mechanisms of movement coordination in mating termite pairs. 2025 Southeastern Branch Meeting of Entomological Society of America (Baton Rouge, LA, USA), Mar 2025 (20-minute talk in a symposium)
11. **Mizumoto N.**, Bourguignon T., Bailey N., Evolution of termite tandem runs, with a few references to cockroach mating, ICE2024: XXVII International Congress of Entomology (Kyoto, Japan), Aug 2024 (15-minute talk in a Symposia)
10. Kikuchi K. & **Mizumoto N.**, Comparative Study of Termites' Nesting Strategies and Individual Movement Patterns, ICE2024: XXVII International Congress of Entomology (Kyoto, Japan), Aug 2024 (15-minute talk in a Symposia)
9. **Mizumoto N.**, Possible Behavioral Changes During US Invasion in *Coptotermes formosanus*. 2024 National Conference on Urban Entomology & Invasive Pest Ant Conference (Mobil, AL), May 2024 (15-minute talk in a session)

8. **Mizumoto N.**, Evolution of termite collective behavior. Alabama Pest Control Association Winter Meeting (Auburn), Feb 2024 (15-minute talk)
7. **Mizumoto N.**, Evolution of termite society and collective behavior. Roles of Heterogeneity in Nonequilibrium Collective Dynamics 2022 (RHINO2022) (Tokyo), Sep 2022 (40-minute talk)
6. **Mizumoto N.**, Evolutionary perspectives of collective animal behavior. The 40th Annual Meetings of the Ethological Society Japan (Online), Sep 2021 (15-minute talk + panel discussion)
5. **Mizumoto N.**, Comparative analysis of behavioral rules in termites, nest building and pair movement coordination. ICMMA 2021 (Online), Jan 2022 (30-minute talk)
4. **Mizumoto N.**, Behavioural mechanism and its evolutionary history of termite tunnel excavation. EU-IUSSI online symposium series 2021 (Online), Oct 2021 (10-minute talk)
3. **Mizumoto N.**, オスとメスの相互探索の最適化が生み出す動きのパターンの性差, KOUDOU2017 (Tokyo) Aug 2017 (20-minute talk)
2. **Mizumoto N.**, シロアリの構造物形成における種内変異をもたらすメカニズム, The 60th Annual Meeting of the Japanese Society of Applied Entomology & Zoology (Osaka, Japan) Mar 2016 (20-minute talk)
1. **Mizumoto N.**, シロアリにおける構造物形成の自己組織化-個体の性質が集団レベルの形質に与える影響, ESJ63: The Annual Meeting of the Ecological Society of Japan (Miyagi) Mar 2016 (30-minute talk)

Accepted talks in professional meetings

87. Carroll E., Kanao T., Lo N. & **Mizumoto N.**, Nesting biology drives the stability of tandem movement coordination in mating termites. 20th International Congress of the IUSSI (Germany)
86. **Mizumoto N.**, AAES (Auburn, AL, USA), April 2026 (Poster)
85. Doering GN., Gerardi S., **Mizumoto N.** & Linksvayer TA., The evolutionary origin of group recruitment in acorn ants, APS Global Physics Summit 2026 (Denver, CO, USA), Mar 2026 (Oral)
84. Hosburgh S. & **Mizumoto N.**, Light-induced activity changes alter foraging tunnel construction in termite workers. Auburn's 2026 Research Symposium (Auburn, AL, USA), Mar 2026 (Poster)
83. Goldman M., Valentine R. & **Mizumoto N.**, Inferring the body size of the common ancestor of termites and wood-feeding cockroaches. Auburn's 2026 Research Symposium (Auburn, AL, USA), Mar 2026 (Poster)
83. Satoh A., Kikuchi K., **Mizumoto N.**, Planas-Sitja I., Cronin A. L., Species comparison of movement patterns across castes and social contexts in termites, ESJ73: The Annual Meeting of Ecological Society of Japan, Mar. 2026 (Poster)
83. **Mizumoto N.**, Tracking termites in Alabama: Updates on Formosan spread and mating behavior. Alabama Pest Control Association Winter Meeting (Auburn), Feb 2026 (10-minute talk)
82. Maxim A., Kikuchi K., Yashiro T., **Mizumoto N.**, Hellemans S., Louise B., Aaron J., Matsuura K., Lo N., Testing the inbreeding hypothesis of neo-sex-chromosome evolution, 56th Annual Conference of the Australian Entomological Society (AES25), Dec 12 2025
81. Carroll E., Kanao T., Lo N. & **Mizumoto N.**, Stable pair coordination enables change in the order of mating behavior sequence in a termite. ABS2025: Animal Behavior Society (Baltimore MD USA), July 10 2025 (12-minute oral presentation).

80. Valentine R. & **Mizumoto N.**, Exploring sand excavation potential of *Kaloterme s approximates*. ITC2025: International termite course (Fort Lauderdale, FL, USA), June 12, 2025 (8-minute presentation for a student symposium).
79. Carroll E., Kanao T., Lo N. & **Mizumoto N.**, Stable pair coordination enables change in the order of mating behavior sequence in a termite, ITC2025: International termite course (Fort Lauderdale, FL, USA), June 12, 2025 (8-minute presentation for a student symposium).
78. Carroll E., Kanao T., Lo N. & **Mizumoto N.**, Stable pair coordination enables change in the order of mating behavior sequence in a termite, 2025 Plants, Insects and Microbes Symposium (Auburn, AL, USA), May 2025 (Oral)
77. Valentine R. & **Mizumoto N.**, Exploring sand excavation potential in dark southern drywood termite *Kaloterme s approximates* (Blattodea:Termitidae). 2025 Plants, Insects and Microbes Symposium (Auburn, AL, USA), May 2025 (Poster)
76. Carroll E., Kanao T., Lo N. & **Mizumoto N.**, Flexibility in termite mating behavior sequences, Auburn's 2025 Research Symposium (Auburn, AL, USA), Mar 2025 (Oral)
75. Valentine R. & **Mizumoto N.**, Exploring sand excavation potential in dark southern drywood termite *Kaloterme s approximates*. 2025 Southeastern Branch Meeting of Entomological Society of America (Baton Rouge, LA, USA), Mar 2025 (Oral)
74. **Mizumoto N.**, Hellemans S., Engel M. S., Bourguignon T. & Buček A., Fossil and living termites reveal the evolution of termite tandem running, Entomology 2024 (Phoenix, AZ, USA), Nov 2024 (Oral)
73. Carroll E., Kanao T., Lo N. & **Mizumoto N.**, Nesting biology drives the stability of tandem movement coordination in mating termites, Entomology 2024 (Phoenix, AZ, USA), Nov 2024 (Oral)
72. Mirza E., Gile G., Jasso-Selles D. & **Mizumoto N.**, Description of *Kofoidia repleta*, n. sp., and an analysis of 18S rRNA gene sequence variability, expression, and transmission, , Entomology 2024 (Phoenix, AZ, USA), Nov 2024 (Poster)
71. Satoh A., Planas-Sitja I., Cronin A. L., Mizumoto N., The defensive behaviour of soldiers is associated with caste composition in termite society. The 43rd Annual Meeting of the Japan Ethological Society (Yamanashi) Nov. 2024 (Poster)
70. Kikuchi K. & **Mizumoto N.**, Individual termite movements reflect foraging strategy evolution., The 26th Annual Meeting of Society for Evolutionary Studies, Japan (Kanagawa, Japan), Aug 2024 (Oral)
69. Satoh A., Planas-Sitja I., Kikuchi K., Cronin A. L., **Mizumoto N.**, Inter-species comparisons of termite soldier castes: how are defense strategies related to locomotive patterns? SWARM2024 (The 8th International Symposium on Swarm Behavior and Bio-Inspired Robotics 2024), Sep 2024 (Poster)
68. Satoh A., Planas-Sitja I., Kikuchi K., **Mizumoto N.**, Comparative study of termites movement: do workers and soldiers show different patterns? ESJ71: The Annual Meeting of Ecological Society of Japan (Kanagawa, Japan), Mar 2024 (Oral)
67. **Mizumoto N.**, Kikuchi K, Hellemans, Bourguignon T. & Bailey N., Evolution of leader-follower role in termite tandem runs. Entomology 2023 (National Harbor, MD, USA), Nov 2023 (Oral)
66. Gazdick K., Lee S.B., **Mizumoto N.**, Chouvenec T. & Su N. Y., Foraging behavior of *Coptoterme s formosanus* and its ability to intercept in-ground bait. Entomology 2023 (National Harbor, MD, USA), Nov 2023 (Oral)

65. Kikuchi K. & **Mizumoto N.**, Individual termite movements reflect social complexity evolution, The 83rd Annual Meeting of the Japanese Society for Animal Psychology (Okinawa), Oct 2023 (Oral)
64. 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 (Oral)
63. 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 (Oral)
62. Taniguchi J., Inoue T., Hung J-F., Hirai A., **Mizumoto N.**, Takeshita F., Kawabata Y., カニの移動方向はどのように進化したのか?: 現生種情報を用いた祖先形質の復元, The 25th Annual Meeting of the Society of Evolutionary Studies, Japan (Okinawa), Sep. 2023 (Poster)
61. **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), Sep 2023, (Oral)
60. Gazdick K., Lee S.B., **Mizumoto N.**, Chouvenc T. & Su N. Y., Interception of in-ground bait stations through extensive food searching by *Coptotermes formosanus*, 104th annual meeting of the Florida Entomological Society, Aug 2023 (Oral)
59. **Mizumoto N.**, Buček A., Quantifying behavior of extinct organisms captured in amber by empirically simulating entrapment process of extant relatives, ESJ70: The Annual Meeting of the Ecological Society of Japan (Online), Mar 2023 (Poster)
58. Taniguchi H., 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, ESJ70: The Annual Meeting of the Ecological Society of Japan (Online), Mar 2023 (Poster)
57. Kikuchi K. & **Mizumoto N.**, Nest complexity reflects individual worker behavior of termites, ESJ70: The Annual Meeting of the Ecological Society of Japan (Online), Mar 2023 (Oral) **Best presentation award to KK**
56. Inoue T, Taniguchi J., Hung J-F, **Mizumoto N.**, Hirai A., Takeshita F., Sato T., Kawabata Y., Relationship between movement direction and morphology of Brachyuran crabs, ESJ70: The Annual Meeting of the Ecological Society of Japan (Online), Mar 2023 (Poster)
55. Kikuchi K. & **Mizumoto N.** Nest complexity reflects individual worker behavior of termites. ASAB Winter 2022 (Edinburgh, UK), December 2022, (Poster) **Poster award to KK**
54. Inoue T, Taniguchi J., Hung J-F, **Mizumoto N.**, Hirai A., Takeshita F., Sato T., Kawabata Y., Relationship between movement direction and morphology of Brachyuran crabs. The 41st Annual Meeting of the Japan Ethological Society (Fukuoka) Oct. 2022 (Oral)
53. Kikuch K. & **Mizumoto N.**, 単個体の行動パターンから見るシロアリの営巣戦略の進化, The 38th Annual Meeting of the Society of Population Ecology (Yokohama, Japan) Oct. 2022 (Poster)
52. Inoue T, Taniguchi J., Hung J-F, **Mizumoto N.**, Hirai A., Takeshita F., Sato T., Kawabata Y., カニ類における進行方向と形態の関係性の解明. The 60th Annual Meeting of the Carcinological Society of Japan (Okayama) Sep. 2022 (Poster)
51. Kikuchi K. & **Mizumoto N.**, Nest is an indicator of inherent worker movements in termites. RHINO2022 (Tokyo, Japan), Sep 2022 (Poster)
50. 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 (San Diego, USA), Jul 2022 (Oral)

49. **Mizumoto N.**, Bourguignon T., Kanao T., The evolution of termite nests promoted the invasion by termitophilous rove beetles, IUSSI 2022 (San Diego, USA), Jul 2022 (Oral)
48. Bourguignon T., **Mizumoto N.**, Bailey N., Ancestral sex-role plasticity facilitates the evolution of same-sex sexual behavior, IUSSI 2022 (San Diego, USA), Jul 2022 (Oral)
47. Kikuchi K. & **Mizumoto N.**, Nest is an indicator of inherent worker movements in termites. Termite Course 2022 (Fort Lauderdale, USA), Jun 2022 (Oral)
46. **Mizumoto N.**, Bourguignon T., Bailey N., Flexible sexual role maintains same-sex pairing in termites, ESJ69: The Annual Meeting of the Ecological Society of Japan (Online), Mar 2022 (Poster)
45. Kikuchi K., Kimura A., Mitarai E., Miyazato M., & **Mizumoto N.** Nest is an indicator of inherent worker movements in termites. ISMMA 2021 (Online), Jan 2022 (Poster)
44. **Mizumoto N.** Same-sex pairing is maintained by acting the other sex in termites. The 40th Annual Meetings of the Ethological Society Japan (Online), Sep 2021 (Poster)
43. 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. ABS 2021: Animal Behavior Society Virtual Meeting (Online), Aug 2021, (Poster)
42. **Mizumoto N.**, Bardunias P. M. & Pratt C. S., Parameter Tuning Facilitates the Evolution of Diverse Tunneling Patterns in Termites. DARS-SWARM 2021 (Online), Jun 2021 (oral)
41. **Mizumoto N.**, シロアリの建設行動と巣構造の関係, FY2020 JSPS IKUSHI Prize presentation (Online) Mar. 2021 (Poster)
40. **Mizumoto N.**, シロアリの集団行動の進化プロセス解明を目指して, FY2020 JSPS IKUSHI Prize presentation (Online) Mar. 2021 (Oral)
39. **Mizumoto N.**, Bardunias P. M. & Pratt C. S. Complex relationship between tunneling patterns and individual behaviors in termites. The 22nd Annual Meeting of the Evolution Society Japan (Online), Sep 2020 (Poster)
38. Lynch C., Starkey M. & **Mizumoto N.** A study on optimization sampling in multiple social insect colonies with a model-based approach. ABS 2020 Virtual Meeting (Online), July 2020, (Oral)
37. De La Monja M., **Mizumoto N.**, Pratt C. S. Desert termites show high survivability under water. BioSci Southwest Symposium (Tempe, US), Nov 2019 (Poster)
36. **Mizumoto N.**, Bardunias P. M. & Pratt C. S. Convergent evolution of termite tunneling with differentiated behavioral rules. Entomological Society of America 2019 (St. Louis, US), Nov 2019 (Oral)
35. **Mizumoto N.**, Bardunias P. M. & Pratt C. S. Parallel evolution of termite tunneling with differentiated behavioral rules. ASAB 2019 Summer Conference (Konstanz, Germany), Aug 2019 (Oral)
34. **Mizumoto N.**, Bardunias P. M. & Pratt C. S. Convergent evolution of tunneling with species-specific algorithms in termites. Behavior 2019 (Chicago, US), Aug 2019 (Oral)
33. 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 (Chicago, US), Aug 2019 (Oral)
32. **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) (Guaruja, Brazil), Aug 2018 (Oral)

31. Matsuura K., **Mizumoto N.**, シロアリのゲノム刷り込みによるカースト決定システム, The 62nd Annual Meeting of the Japanese Society of Applied Entomology & Zoology (Kagoshima) Mar. 2018 (Oral)
30. **Mizumoto N.** & Dobata S. Termite search strategies when a mating pair gets separated. The 62nd Annual Meeting of the Japanese Society of Applied Entomology & Zoology (Kagoshima) Mar. 2018 (Oral) **Best Presentation Award**
29. **Mizumoto N.**, 建設アルゴリズムから臨むシロアリの構造物の進化プロセス, ESJ65: The Annual Meeting of the Ecological Society of Japan (Hokkaido, Japan) Mar. 2018 (Oral)
28. 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 (Tasmania, Australia), Dec 2017 (oral)
27. Fujisawa R., Kawano Y., Otsuki K., **Mizumoto N.**, Abe S. M., Dobata S. & Nagaya N., 昆虫搭乗型移動ロボット ANTAM による生物の行動パターンの計測, SSI2017 (Shizuoka) Nov. 2017 (Poster)
26. **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 (Kyoto, Japan), October 2017 (Oral)
25. **Mizumoto N.**, Abe M.S., Nagaya N., Fujisawa R. & 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 (Kyoto, Japan), October 2017 (Oral)
24. Fujisawa R., **Mizumoto N.**, Nagaya N. & 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 (Kyoto, Japan), October 2017 (Oral)
23. **Mizumoto N.**, Dobata S. Searching strategy when a mating pair get separated in termites. The 34th Annual Meeting of the Society of Population Ecology (Fukuoka, Japan) Oct. 2017 (Poster)
22. **Mizumoto N.**, Abe S. M. & Dobata S., 相互探索の効率化が駆動するオスとメスの動き方の共進化, The 19th Annual Meeting of the Society of Evolutionary Studies (Kyoto, Japan) Aug. 2017 (Oral)
21. **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)
20. **Mizumoto N.**, Fuchikawa T. & Matsuura K., 砂時計型メカニズムを使ったシロアリの配偶者探索における時刻決定, The 61st Annual Meeting of the Japanese Society of Applied Entomology & Zoology (Tokyo) Mar. 2017 (Oral)
19. **Mizumoto N.**, Abe M. S. & Dobata S. Mutual search optimization drives evolution of sexual differential movement patterns. ESJ64: The Annual Meeting of the Ecological Society of Japan (Tokyo) Mar. 2017 (Oral)
18. Matsuura K., **Mizumoto N.**, Nozaki T., Fujita T., Kobayashi K. & Yashiro T., Can insects live longer than 100 years?, ESJ64: The Annual Meeting of the Ecological Society of Japan (Tokyo) Mar. 2017 (Oral)
17. **Mizumoto N.**, Yashiro T. & Matsuura K., オス同士でペアを組むシロアリの本当の目的とは, The 35th Annual Meeting of the Japan Ethological Society (Niigata, Japan) Nov. 2016 (Poster)
16. **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) Sep. 2016 (Oral)

15. **Mizumoto N.** The mechanism creating intraspecific variation of termite building structures provides the evolutionary perspectives of collective behavior. The 33rd Annual Meeting of the Society of Population Ecology (Hokkaido, Japan) Nov. 2016 (Oral)
14. **Mizumoto N.**, Yashiro T. & Matsuura K. The adaptive significance of male same-sex partnership in termites. The 33rd Annual Meeting of the Society of Population Ecology (Hokkaido, Japan) Nov. 2016 (Poster) **Best Poster Award**
13. **Mizumoto N.**, Yashiro T. & Matsuura K. Male homosexual pairs of termites cooperate for survival and future reproduction. The 60th Annual Meeting of the Japanese Society of Applied Entomology & Zoology Mar. 2016 (Oral) **English presentation award**
12. **Mizumoto N.**, Sato R., Nagaya N., Abe M. S., Dobata S. & Fujisawa R. Can sex difference in movement patterns really enhance mating encounters? Yes!, ESJ63: The Annual Meeting of the Ecological Society of Japan (Miyagi, Japan) Mar. 2016 (Oral) **Best English presentation award**
11. **Mizumoto N.**, Dobata S., Sato R., Fujisawa R., Abe S. M. & Nagaya N., 素敵な出会いを応援します：移動パターンの性差がもたらす配偶者探索の最適化, The 34th Annual Meeting of the Japan Ethological Society (Tokyo) Nov. 2015 (Poster)
10. **Mizumoto N.** & Dobata S., Sex difference in random walk patterns enhances mating encounters, The 32nd Annual Meeting of the Society of Population Ecology (Shiga) Oct. 2015 (Poster) **Poster award**
9. **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 (Kyoto), Oct 2015. (Poster)
8. **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 (Kyoto), Oct 2015 (Oral)
7. **Mizumoto N.** & Matsuura K., シロアリのコロニー経営学：羽アリ生産と蟻道建設のトレードオフ, ESJ62: The Annual Meeting of the Ecological Society of Japan (Kagoshima, Japan) Mar. 2015 (Poster)
6. **Mizumoto N.**, Iwata C., Kobayashi K. & Matsuura K., シロアリ社会における構築物形成の自己組織化, The 33rd Annual Meeting of the Japan Ethological Society (Nagasaki, Japan) Nov 2014 (Oral)
5. **Mizumoto N.**, Kobayashi K. & Matsuura K. Emergence of colony-specific architectures in termite shelter-tube construction International Union for the Study of Social Insects (IUSI14) (Cairns, Australia) July 13-18, 2014 (Oral)
4. **Mizumoto N.** & Matsuura K. Colony-specificity of shelter-tube construction in termites. The Annual Meeting of the Ecological Society of Japan (Hiroshima, Japan) Mar. 2014 (Oral) **Best English presentation award**
3. **Mizumoto N.** & Matsuura K., シロアリの蟻道形成にみられるコロニー特異性, The Annual Meeting of the Kinki Branch of Ecological Society of Japan (Shiga) Dec. 2013 (Oral)
2. **Mizumoto N.** & Matsuura K., シロアリの個性から自己組織化を斬る：蟻道建設にみられるコロニー特異性, The Annual Meeting of the Japan Ethological Society (Hiroshima) Nov. 2013 (Poster) **Best poster award**
1. **Mizumoto N.** & Matsuura K., 蟻道形成におけるシロアリの個性, The Annual Meeting of the Japanese Society of Applied Entomology & Zoology (Tokyo) Mar 2013 (Oral)

Seminars

41. Pacific Rim Termite Research Group. Quarterly Expert Webinar Series, Aug. 2025
40. University of Southern Mississippi, Gulf Coastal Plain Ecology REU Seminar, Jul. 2025 (all expenses paid)
39. University of Georgia, Department of Entomology, Feb. 2025 (all expenses paid)
38. University of Central Florida, Department of Biology, Oct. 2024 (all expenses paid)
37. The University of Tokyo, Komaba seminar, Dec. 2023
36. University of Sydney, School of Life and Environmental Sciences, Oct. 2023
35. Kyoto University, Laboratory of Insect Ecology, Kakuchi-seminar, Jul. 2023
34. Florida Atlantic University, Department of Biological Sciences, Mar. 2023 (**all expenses paid**)
33. Auburn University, Department of Entomology and Plant Pathology, Evolutionary perspectives of termite collective behavior. Feb. 2023 (**all expenses paid**)
32. OIST Mini-Symposium, "Phylogeny and Classification of Termites," Evolution of movement coordination in termites. Nov. 2022
31. OIST, Collective Intelligence in Living/Non-Livings Populations, invited speaker, Nov. 2022
30. Nagasaki University, Faculty of Fisheries, シロアリの行動ルールの比較研究～集団行動の進化が知りたくて～. May 2022
29. National Institute for Basic Biology in Japan, シロアリの行動ルールの比較研究～集団行動の進化が知りたくて～. online, Apr. 2022
28. Virginia Tech University, Department of Entomology, Feb. 2022 (**all expenses paid**)
27. Mississippi State University, Department of Biology, online, Feb. 2022
26. University of South Florida, Department of Integrative Biology, online, Jan. 2022
25. University of St. Andrews, online, Sep. 2021
24. OIST Internal Seminar Series, July 2021
23. Termite Reading Group, May 2021
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

- 2024 *NATIONAL GEOGRAPHIC*, Termite fossils caught in the act prove mating hasn't changed in 38 million years, nationalgeographic.com/animals/article/amber-fossils-termites-ancient-mating
- 2020 *entomologist today*, Digging Deep: The Secrets Within Termite Nests, <https://entomologytoday.org/2020/08/19/digging-deep-secrets-within-termite-nests/>
- 2019 *The New York Times*, A School of Fish, Captured in a Fossil, nytimes.com/2019/05/29/science/fossil-fish-school.html
- 2019 *The Atlantic*, An Incredible Fossil Contains a Whole School of 259 Fish, theatlantic.com/science/archive/2019/05/fossil-school-fish/590689/
- 2019 91.5 KJZZ, ASU Study: Termites Use Smart Searches To Find Mates, <https://kjzz.org/content/1014246/asu-study-termites-use-smart-searches-find-mates>
- 2017 *Nihon Keizai Shimbun Inc.*, 京大など、オスとメスが互いに探索しあう状況を想定した理論モデルを構築, ikkei.com/article/DGXLRS444628_Q7A510C1000000/
- 2013 *Science*, ScienceShot: Termite Architects Have Their Own Plans, science.org/content/article/scienceshot-termite-architects-have-their-own-plans

References

*Alphabetical order (in last name)

Nathan W. Bailey, Professor
Centre for Evolution, Genes and Genomics, School of Biology
University of St Andrews
St Andrews, Fife KY16 9TH, United Kingdom
nwb3@st-andrews.ac.uk
Tell: +44 (0) 1334.46.3367

Thomas Bourguignon, Associate Professor
Evolutionary Genomics Unit
Okinawa Institute of Science and Technology Graduate University (OIST)
1919-1 Tancha, Onna-son, Okinawa, 904-0495 Japan
thomas.bourguignon@oist.jp
Tell: +81 (098)-966-1513

Nathan Lo, Professor
School of Life and Environmental Sciences
The University of Sydney
LEES Building F22
Sydney, NSW 2006 Australia
nathan.lo@sydney.edu.au
Tell: +61 (2)-9036-7649

Stephen C. Pratt, Professor
School of Life Sciences
Arizona State University

P.O. Box 874501
Tempe, AZ, 85287-4501, USA
Stephen.Pratt@asu.edu
Tell: +1 (480) 727-9425