

# EVAN P. ECONOMO, Ph.D.

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## EDUCATION

2009 Ph.D. University of Texas at Austin. *Ecology, Evolution, & Behavior*.

2002 B.S. University of Arizona. *Ecology & Evolutionary Biology*.

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## APPOINTMENTS

### Okinawa Institute of Science and Technology Graduate University

2023 - present Dean of Faculty Affairs  
2019 - 2022 Associate Ombudsperson  
2020 - present Professor, *Biodiversity and Biocomplexity Unit*  
2012 - 2020 Assistant Professor, *Biodiversity and Biocomplexity Unit*  
2011 - 2012 Visiting Assistant Professor

### Harvard University

2021 - 2022 Mary I. Bunting Fellow, Radcliffe Institute for Advanced Study

### University of Michigan

2012 - 2017 Visiting Assistant Prof., Dept. of Ecology and Evolutionary Bio., Museum of Zoology  
2009 - 2012 Postdoctoral Fellow - Michigan Society of Fellows  
Assistant Prof. (non tenure-track)- Dept. of Ecology and Evolutionary Biology

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## **INSTITUTIONAL LEADERSHIP EXPERIENCE**

### **OIST Dean of Faculty Affairs (2023-present)**

I work closely with the President, the Provost, the Dean of Research, and the Dean of the Graduate School, to manage essential functions of the University. As our university does not have academic departments, the DFA role is a combination of what would be Dean and Department Chair functions in the US system. The DFA is the line manager for all 90 faculty and responsible for the well-being and success of ~500 research staff working under their supervision. The DFA runs the Faculty Affairs Office and administers faculty tenure and promotion reviews, external reviews of research units, faculty recruitment, faculty contracts, professional development, research misconduct investigations, salary and promotions for research staff, the library, and university strategic planning.

### **OIST Associate Ombudsperson (2019-2022)**

In my role as Associate Ombudsperson for the campus I assisted OIST members with conflict resolution issues including harassment complaints, employee issues, etc.

### **Principal, OIST/Onna Children's School of Science (2019-2022)**

I was one of two Principals and the sole OIST faculty representative on the executive committee of the Children's School of Science, a yearly summer science program we run in partnership with the local community (Onna village) that has included over 800 grade-school children over the years. The operations of the school are run by the OIST community relations section.

### **OKEON Churamori Project & Environmental Research Support Section**

Since 2015, I have led development of the Okinawa Environmental Observation Network (OKEON) Churamori Project. This project is designed to both further ecological science activities at OIST but also form partnerships with local communities in Okinawa. We established 24 long-term monitoring sites across the island, and in the process made partnerships with over 100 entities including high schools, local museums, local Universities, NGOs and government entities. In addition, we established an institutional Arthropod collection. This has been an important project for OIST's relationship with Okinawa, and generated a large amount of positive stories in the local and national media. I incubated a team in my lab that this year became a new research support section (Environmental Research Support Section) which supports any researcher in the OIST community doing field work.

## **OIST Committees**

### **2023- present | Executive Committee**

This committee, chaired by the President, meets weekly to share key information, discuss issues, and support the President in deciding essential matters for the University.

### **2023- present | Faculty Awards Committee (Chair)**

I recently formed this committee to promote and facilitate faculty to apply for and receive scholarly awards. Our main focus is to break down language and other understanding barriers for applying for awards in different countries, as well as proactively nominate and/or encourage underrepresented researchers to apply for awards.

**2023- present | Space Allocation Committee (Chair)**

This committee makes decisions regarding space allocation among all research and administrative units on campus. In addition, I am responsible for strategic planning of space on campus.

**2023- present | Research Staff Appointments Committee (Chair)**

This committee evaluates all non-faculty research staff for appointment, salary changes, promotions, and continuing (permanent) employment status.

**2023- present | Core Facilities Steering Committee**

This committee advises the Provost on operation all the core facilities including operations, policies, and strategic planning.

**2022 | Appointments and Promotions Committee**

This committee is positioned between hiring / promotion committees and executive leadership, to ensure that relevant procedures are followed and recommendations meet criteria.

**2021 | Tenure Review Committee**

Tenure review committee member for OIST faculty member.

**2021-2022 | Conference and Workshop Committee**

Responsible for selecting conferences and workshops to receive support from OIST and set policies for operations.

**2020 | Working Group on Procurement**

This is an *ad hoc* committee responsible for revising procurement regulations, particularly developing a response to some new regulations from the Japan Ministry of Finance.

**2019-present | OKEON Steering Committee**

Advise and manage OKEON project and Environmental Science Support section.

**2019 | Working Group on Travel Regulations**

This was an *ad hoc* committee responsible for revising travel regulations, I was asked by the faculty council to represent faculty concerns, and this led to substantial revision of travel rules.

**2018 | Perspective Council**

This was an *ad hoc* committee of extremely distinguished scientists (4 of the 6 Nobel laureates, chaired by Steven Chu (former Secretary of Energy, USA) tasked with planning the scientific direction of future growth / faculty hiring at OIST. I was one of 6 individuals chosen to represent the OIST faculty on this committee, where I particularly represented the fields of Ecology/Environment/Marine Science.

**2016 | Task Force on Rank and Tenure**

This was an *ad hoc* committee formed by the faculty to examine policies and procedures for tenure and promotion reviews. We made recommendations to the president which led to substantial policy changes.

**2016-2019 | Curriculum and Examinations Committee**

Standing committee responsible for curriculum and exam related issues for our PhD program, including setting policy, overseeing curriculum, overseeing proposal exams and final thesis defenses, approving granting of degrees, etc.

**2015-2021 | Human Subjects Research Review Committee (IRB)**

This committee oversees and approves all human subjects research at OIST. I was included on this committee particularly as a biostatistics expert.

**2013, 2014, 2018, 2019 | Faculty Search Committees**

I was a member of faculty search committees for Marine Science in 2013 and 2014, and for Ecology/Environment in 2018, and have been member of a target of opportunity search committee in 2019.

**2013-2022 | Gender Equality and Diversity Committee**

Promoting Gender Equality and Diversity on OIST campus, including promoting family-friendly environment, advising on tenure (e.g. stop-the-clock) policies, etc. I was a founding member of this committee.

**2013-present | Information Technology Service and Support Committee**

This committee oversees IT issues at OIST and advises the CIO, including email systems, phone systems, privacy and security policies, etc.

**2013-2015 | Faculty Council**

The main governance committee for OIST faculty, elected by faculty peers.

**2012-2013 | Admissions Committee**

Responsible for admissions to the OIST PhD program

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**PUBLICATIONS****Book**

Sarnat, E., **Economio, E.P.** (2012) *The Ants of Fiji*. University of California Press.

## Preprints

- Ross, S.R.P.J., Friedman, N.R., Armitage, D.W., Dudley, K.L., Yoshida, T., Yoshimura, M., **Economo, E.P.**, Donohue, I. (2023) Spatial divergence in ecological responses to typhoons across a subtropical island. *bioRxiv*.
- Warren, D.L., Kass, J.M, **Economo, E.P.** (2022) Randomization analyses in niche and distribution modeling. *EcoEvoRxiv*.
- Warren, D.L., Kass, J.M., Casadei-Ferreira, A., **Economo, E.P.** (2022) Incorporating sampling bias into permutation tests for niche and distribution models. *bioRxiv*.
- Frank, E.T., Kesner, L., Liberti, J., Helleu, Q., LeBoeuf, A., Dascalu, A., Milutinovic, B., Azuma, F., **Economo, E.P.**, Waridel, P., Engel, P., Schmitt, T., Keller, L. (2022) Infection signaling and antimicrobial wound care in a predatory ant. *bioRxiv*.

## Published | In Press

133. Demetriou, J., Georgiadis, C., Martinou, A.F., Roy, H., Wetterer, J.K., Borowiec, L., **Economo, E.P.**, Triantis, K., Salata, S. (*In Press*) Running rampant: the alien ants (Hymenoptera: Formicidae) of Cyprus. *Neobiota*.
132. Kass, J.M., Yoshimura, M., Ogasawara, M., Suwabe, M., Hita Garcia, F., Fischer, G. Dudley, K.L., Donohue, I., **Economo, E.P.** (*In Press*) Breakdown of ant community seasonal patterns over a land cover gradient. *Proceedings of the Royal Society B*.
131. Griebenow, Z., Richter, A., Fischer, G., van de Kamp, T., **Economo, E.P.**, Lieberman, Z. (*In Press*) Derivation and disparity in the male genitalia of the Leptanillinae (Hymenoptera: Formicidae): a comparative study of genital skeletomusculature. *Arthropod Systematics and Phylogeny*.
130. Richter, A., **Economo, E.P.** (*In Press*) The feeding apparatus of ants: An overview of structure and function. *Philosophical Transactions of the Royal Society B*.
129. Toulkeridou, E., Gutierrez, C. E., Baum, D., Doya, K., **Economo, E.P.** (2023) Automated segmentation of insect anatomy from micro-CT images using deep learning. *Natural Sciences*.
128. Nathan, P, **Economo, E.P.**, Guénard, B.P, Simonsen, A., Fredrickson, M.E. (2023) Generalized mutualisms promote range expansion in both plant and ant partners. *Proceedings of the Royal Society B* 290: 20231083.
127. Luo, Y., Taylor, A., Weigelt, P., Guénard, B., **Economo, E.P.**, Nowak, A. Inderjit, Kreft, H. (2023) Climate and ant diversity explain the global distribution of ant-plant mutualisms. *Ecography*.
126. French, C.M., Bertola, L.D., Carnaval, A.C., **Economo, E.P.**, Kass, J.M., Lohman, D.J., Marske, K.A., Meier, R., Overcast, I., Rominger, A.J., Staniczenko, P., Hickerson, M.J. (2023) Global determinants of the distribution of insect mitochondrial diversity. *Nature Communications* 15: 5276.

125. Li, Z., Azuma, F., Bachmann, V., Frank, E., Oliveira-Honorato, T., Parker, D.J., **Economo, E.P.**, Ulrich, Y. (2023) Behavioural individuality determines infection risk in clonal ant colonies. *Nature Communications* 14: 5233.
124. Aibekova, L., Keller, R., Katzke, J., Allman, D.M., Hita-Garcia, F., Labonte, D., Narendra, A **Economo, E.P.** (2023) Parallel and divergent morphological adaptations for jumping in ants. *Integrative Organismal Biology* 5: obad026.
123. Khalife, A., Billen, J., **Economo, E.P.** (2023) Evidence of a thoracic crop in workers, soldiers and queens of *Carebara perpusilla* ants (Formicidae: Myrmicinae). *The Science of Nature* 110: 36
122. Dinets, V., Friedman, N.R., Ogasawara, M., Yoshimura, M., Preble, J.H., and **Economo, E.P.** (2023) Impacts on bats by a supertyphoon vs. ordinary typhoons along a habitat urbanization gradient. *Research in Ecology* 5: 14-27.
121. Wang, C., Chung, F., Lin, C., Katzke, J., **Economo, E.P.**, Billen, J. (2023) Morphology of the metapleural gland and its associated novel atrial cone gland in *Strumigenys* ants. *Micron*. 171: 103463
120. Liu, D., Essl, F., Lenzner, B., Moser, D., Blackburn, T.M., Cassey, P., Biancolini, D., Capinha, C., Dawson, W., Dyer, E.E., Guénard, B., **Economo, E.P.**, Kreft, H., Pergl, J., Pyšek, P., van Kleunen, M., Nentwig, W., Rondinini, C., Seebens, H., Semenchuk, P., Weigelt, P., Winter, M., Dullinger, S. (2023) The impact of land use on alien species incidence and richness in local assemblages worldwide. *Nature Communications* 14: 2090.
119. Wong, M., **Economo, E.P.**, Guénard, B.G. (2023) The global spread and invasion capacities of alien ants. *Current Biology* 33: 566-571.
118. Liu, C., **Economo, E.P.**, Guénard, B.G. (2023) GABI-I: The global ant biodiversity informatics-island database. *Ecology*.
117. Richter, A., Boudinot, B., Hita Garcia, F., Billen, J., **Economo, E.P.**, Beutel, R.G. (2023) Wonderfully weird: The head anatomy of the armadillo ant *Tatuidris tatusia* (Formicidae: Agroecomyrmecinae). *Myrmecological News* 33: 35-75.
116. Wang, R., Kass, J.M., Galkowski, C., Garcia, F., Hamer, M.T., Radchenko, A., Salata, S.D., Schifani, E., Yusupov, Z.M., **Economo, E.P.**, Guénard, B. (2023) Geographic and climatic constraints on bioregionalization of European ants. *J. of Biogeography* 503-514.
115. Overcast, I., Achaz, G., Aguilée, R., Andújar, C., Arribas, P., Creedy, T.J., **Economo E.P.**, Etienne, R., Gillespie, R., Jacquet, C., Jay, F., Kennedy, S., Krehenwinkel, H., Lambert A., Meramveliotakis E., Noguerales, V., Perez-Lamarque, B., Roderick, G., Rogers, H., Ruffley, M., Sanmartin, I., Vogler, A.P., Papadopoulou, A., Emerson, B.C., Morlon, H. (2022) Genetic Theory of Island Biogeography: Inferring Processes from Multi-Dimensional Community-Scale Data. *Global Ecology and Biogeography* 32: 4-23.
114. Emerson, B.C., Borges, P.A.V., Cardoso, P., Convey, P., deWaard, J.R., **Economo, E.P.**, Gillespie, R., Kennedy, S., Krehenwinkel, H., Meier, R., Roderick, G., Strasberg, D., Thébaud, C., Traveset, A., Creedy, T.J., Meramveliotakis, E., Noguerales, V., Overcast, I., Morlon, H., Papadopoulou, A., Vogler, A.P., Arribas, P., Andújar, C. (2022) Collective and harmonised high-throughput barcoding of insular arthropod biodiversity: toward a Genomic Observatories Network for islands. *Molecular Ecology*.

113. Liu, C., Fischer, G., Liu, Q., Peng, Y.Q., **Economo, E.P.**, Guénard, B. (2022) Updating the taxonomy of the ant genus *Myrmecina* (Hymenoptera, Formicidae) in China with descriptions of four new species. *Zootaxa* 5182: 152-164.
112. Wepfer, P., Nakajima, Y., **Economo, E.P.**<sup>†</sup>, Mitarai, S.<sup>†</sup> (2022) The oceanographic isolation of the Ogasawara Islands and genetic divergence in a reef-building coral. *J. of Biogeography* 49: 1978-1990. <sup>†</sup>joint last authors
111. Wang, W., Soh, E.J.Y., Yong, G.W.J., Wong, M.K.L., Guénard, B.G., **Economo, E.P.**, Yamane, S. (2022) Remarkable diversity in a little red dot: a comprehensive checklist of known ant species in Singapore (Hymenoptera: Formicidae) with notes on ecology and taxonomy. *Asian Myrmecology* 15: 015006.
110. Kennedy, S., Calaor, J., Hans, J., Zurápiti, Y., Yoshimura, M., Choo, J., Andersen, J., Callagan, J., Roderick, G.K., Krehenwinkel, H.<sup>†</sup>, Rogers, H.<sup>†</sup>, Gillespie<sup>†</sup>, R.G., **Economo, E.P.**<sup>†</sup> (2022) Richness and resilience in the Pacific: DNA metabarcoding enables parallelized evaluation of biogeographic patterns. *Molecular Ecology*. <sup>†</sup>joint last authors
109. Kass, J.\*., Guénard, B., Dudley, K., Jenkins, C.N., Azuma, F., Fisher, B.L., Parr, C.L., Gibb, H., Longino, J.T., Ward, P.S., Chao, A., Lubertazzi, D., Weiser, M., Jetz, W., Guralnick, R., Blatrix, R., Des Lauriers, J., Donoso, D., Georgiadis, C., Gomez, K., Hawkes, P., Johnson, R.A., Lattke, J., MacGown, J.A., Mackay, W., Robson, S., Sanders, N., Dunn, R.R., **Economo, E.P.**\* (2022) The global distribution of known and undiscovered ant biodiversity. *Science Advances* 8: eabp9908. \*corresponding
108. Arribas, P. Andújar, C., Bohmann, K., deWaard, J., **Economo, E.P.**, Elbrecht, V., Geisen, S., Goberna, M., Krehenwinkel, H., Novotny, V., Zinger, L., Creed, T.J., Emmanouil Meramveliotakis, E., Nogueras, V., Overcast, I., Morlon, H., Papadopoulou, A., Vogler, A.P., Emerson, B.C. (2022) Toward global integration of biodiversity big data: a harmonised metabarcode data generation module for terrestrial arthropods. *GigaScience* 11: 1-12.
107. Parker, E., Jones, C., **Economo, E.P.**, Zapfe, K.L. Federman, S., Near, T.J. Dornburg, A. (2022) Periodic environmental disturbance drives repeated ecomorphological diversification in an adaptive radiation of Antarctic fishes. *The American Naturalist*.
106. Khalife, A., Peeters, C., **Economo, E.P.** (2022) Minute workers and large soldiers in the subterranean ant *Carebara perpusilla*: functional consequences of muscle allometry in the thorax. *Arthropod Structure & Development* 69: 101188.
105. Andrade-Silva, J., Baccaro, F.B., Prado, L.P., Warren, D.L., Kass, J., Guenard, B., **Economo, E.P.**, Silva, R.R. (2022) A large-scale assessment of ant diversity across the Brazilian Amazon Basin: integrating geographic, ecological, and morphological drivers of sampling bias. *Ecography* 16: e0695.
104. Gómez, K., Kouakou, L., Fischer, G., Hita-García, F., Katzke, J., **Economo, E.P.** (2022) *Pheidole klaman* sp. n.: A new addition from Ivory Coast to the Afrotropical *pulchella* species group (Hymenoptera: Formicidae: Myrmicinae). *Zookeys* 1104: 129-157.
103. Aibekova, L., Boudinot, B. E., Beutel, R.G., Richter, A., Keller, R.A., Hita Garcia, F., **Economo, E.P.** (2022) The skeletomuscular system of workers of the generalized ant genus *Formica* (Formicidae). *Insect Systematics and Diversity* 6: 2.

102. La Richeliere, F., Dunn, R., **Economo, E.P.**, Guénard, B., Sanders, N., Weiser, M., Abouheif, E., Lessard, J.P. (2022) Warm and arid regions of the world are hotspots of social complexity. *Proceedings of the Royal Society: B* 289: 20211899.
101. Katzke, J. Puchenkov, P., Stark, H., **Economo, E.P.** (2022) A roadmap to reconstructing muscle architecture from CT data. *Integrative Organismal Biology* 4: obac001.
100. Takashina, N., Jenkins, C., Planck, M., **Economo, E.P.** (2022) Species-range size distributions: integrating the effects of speciation, transformation, and extinction. *Ecology and Evolution* 12: e8341.
99. Boudinot, B., Richter, A., Katzke, J., Keller, R., **Economo, E.P.**, Beutel, R., Yamamoto, S. (2022) Evidence for the evolution of eusociality in stem ants and a systematic revision of †*Gerontofornica* (Hymenoptera, Formicidae). *Zoological Journal of the Linnean Society* 195: 1355-1389.
98. Beutel, R., Friedrich, F., **Economo, E.P.** (2022) Patterns of morphological simplification and innovation in the megadiverse Holometabola (Insecta). *Cladistics* 38: 227-245.
97. Silva, R....(203 authors including **Economo, E.P.**)...Ribiero, M.A. (2021) ATLANTIC ANTS: a dataset of ants in Atlantic Forests of South America. *Ecology* 103: e03580.
96. Klunk, C.L., Argenta, M.A., Casadei-Ferreira, A., **Economo, E.P.**, Pie, M.R. (2021) Mandibular morphology, task specialization, and bite mechanics in *Pheidole* ants (Hymenoptera: Formicidae). *Journal of the Royal Society Interface* 18: 20210318.
95. Richter, A., Keller, R. A., Hita Garcia, F., Billen, J., Katzke, J., Boudinot, B. E., **Economo, E.P.\***, Beutel, R.G.\* (2021) Head anatomy of *Protanilla lini* (Leptanillinae, Formicidae, Hymenoptera) and a hypothesis of their mandibular movement. *Myrmecological News* 31: 85-114. \*joint supervision
94. Casadei-Ferreira, A., Friedman, N.R., **Economo, E.P.**, Pie, M.R., Feitosa, R.M. (2021) Head and mandible shapes are highly integrated yet represent two distinct modules within and among worker sub-castes of the ant genus *Pheidole*. *Ecology & Evolution* 11: 6104-6118.
93. Booher, D., Gibson, J., Liu, C., Longino, J.T., Fisher, B.L., Janda, M., Narula, N., Toulkeridou, E., Mikheyev, A.S., Suarez, A., **Economo, E.P.** (2021) Functional innovation promotes diversification of form in the evolution of an ultrafast trap-jaw mechanism in ants. *PLoS Biology* 19: e3001031.
92. Suzuki, Y., **Economo, E.P.** (2021) Dispersal network topology and spatial environmental autocorrelation mediate the balance of species sorting and mass effects in metacommunities. *Ecography* 44: 1-12.
91. Rosas-Mejia, M. Guénard, B. Aguilar-Méndez, M.J., Ghilardi, A., Vásquez-Bolaños, M., **Economo, E.P.**, Janda, M. (2021) Introduced ants (Formicidae: Hymenoptera) in Mexico – the first database of records. *Biological Invasions* 23: 1669-1680.
90. Ross, S.R.P-J., Friedman, N.R., Yoshimura, M., Yoshida, T., Donohue, I., **Economo, E.P.** (2021) Utility of acoustic indices for ecological monitoring in complex sonic environments. *Ecological Indicators* 121: 107114.
89. Takashina, N., **Economo, E.P.** (2020) Developing generalized sampling schemes with known error properties: the case of a moving observer. *Ecography* 43: 1-14.

88. Casadei-Ferreira, A., **Economo, E.P.**, Feitosa, R.M. (2020) Revisions to the *Pheidole* (Hymenoptera, Formicidae) fauna of the Brazilian southern grasslands. *Revista Brasileira de Entomologia* 64: e20200068.
87. Peeters, C., Keller, R.A., Fischer, G., Khalife, A., **Economo, E.P.** (2020) The evolutionary loss of flight enabled the remarkable strength of ant workers. *Frontiers in Zoology* 17: 33.
86. Liu, C., Fischer, G., Hita Garcia, F., Yamane, S., Liu, Q., Peng, Y.Q., **Economo, E.P.**, Guénard, B., Pierce, N. E. (2020) Ants of the Hengdian mountains: a new altitudinal survey and updated checklist for Yunnan Province highlight an understudied insect biodiversity hotspot. *ZooKeys* 978: 1-171.
85. Dias, R.K.S., Guénard, B., **Economo, E.P.**, Akbar, S.A., Udayakantha, W.S., Wachkoo, A.A.A. (2020). The Ants (Hymenoptera: Formicidae) of Sri Lanka: A taxonomic research summary and updated checklist. *ZooKeys* 967: 1-142.
84. Dinets, V., Friedman, N., Yoshimura, M., Ogasawara, M., **Economo, E.P.** (2020) Acoustic detection of an unknown bat species in Okinawa. *Mammal Study* 45: 1-4.
83. Casadei-Ferreira, A., Fischer, G., **Economo, E.P.** (2020) Evidence for a thoracic crop in the workers of some *Pheidole* species (Formicidae: Myrmicinae). *Arthropod Structure & Development* 59: 100977.
82. Fischer, G., Friedman, N.R., Huang, J.P., Knowles, L.L., Mikheyev, A.S., Fisher, B.L., **Economo, E.P.** (2020) Socially parasitic ants evolve a mosaic of host-matching and parasitic morphological traits. *Current Biology* 30: 1-8.
81. Wepfer, P., Nakajima, Y., Radice, V., Toonen, R., Richards, Z., Ang, P., Sutthacheep, M., Chen, A., Sudek, M., Fujimura, A., Mikheyev, A.S., **Economo, E.P.\***, Mitarai, S.\* (2020) Evolutionary biogeography of the coral genus *Galaxea* across the Indo-Pacific ocean. *Molecular Phylogenetics and Evolution* 151: 106905. \*co-last author
80. Friedman, N.R., Lecroq-Bennett, B., Fischer, G., Sarnat, E.M., Huang, J.P., Knowles, L.L., **Economo, E.P.** (2020) Macroevolutionary integration and modularity of phenotypes within and across ant worker castes. *Ecology and Evolution* 10: 9371-9383.
79. Aoyama, Y., Yoshimura, M., Ogasawara, M., Suwabe M., **Economo E.P.** (2020) Potential economic impacts of invasion of the red imported fire ant in Okinawa, Japan. *Japanese Journal of Ecology* 70: 3-14. DOI: [https://doi.org/10.18960/seitai.70.1\\_3](https://doi.org/10.18960/seitai.70.1_3) [in Japanese, original citation: 青山 夕貴子, 吉村 正志, 小笠原 昌子, 諏訪部 真友子, エコノモ P. エヴァン (2020) 沖縄県におけるヒアリの侵入・蔓延時に推定される経済的損失. 日本生態学会誌 70: 3-14.]
78. Miao, B.G., Peng, Y.Q., Yang, D.R., Kubota, Y., **Economo, E.P.**, Liu, C. (2020) Climate and land-use interactively shape butterfly diversity in tropical rainforest and savanna ecosystems of southwestern China. *Insect Science*.
77. Richter, A., Keller, R.A., Hita Garcia, F., Billen, J., **Economo, E.P.\***, Beutel, R.G.\* (2020) Comparative analysis of worker head anatomy of *Formica* and *Brachyponera* (Formicidae, Hymenoptera, Insecta). *Arthropod Systematics and Phylogeny* 78: 133-170. \*co-last author
76. Beutel, R.G., Richter, A., Keller, R., Hita Garcia, F., Matsumura, Y., **Economo, E.P.**, Gorb, S.N. (2020). Distal leg structures of the Aculeata (Hymenoptera): a comparative evolutionary study of *Sceliphron* (Sphecidae) and *Formica* (Formicidae). *Journal of Morphology* 281: 737-753.

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8. **Economo, E.P.** (2011) Biodiversity conservation in metacommunity networks: linking pattern and persistence. *The American Naturalist* 177: E167-180. (highlighted by Faculty of 1000)
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5. Cowperthwaite, M., **Economo, E.P.**, Harcombe W., Miller, E., Meyers, L.A. (2008) The ascent of the abundant: How mutational networks constrain evolution. *PLoS Computational Biology* 4: e1000110.
4. **Economo, E. P.**, & Keitt, T.H. (2008) Species diversity in neutral metacommunities: a network approach. *Ecology Letters* 11: 52-62.
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### **Non-Peer Reviewed:**

**Economo, E.P.** (2016) Understanding western academia: Advice for job-seekers and recommendation letter-writers [published in Japanese]. *Japanese Journal of Ecology* 66, 735-742.

### **Website:**

antmaps.org. **Economo, E.P.**, Guénard, B., Janicki, J., Ziegler, M., Narula, N. Published online July, 2015.

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## EXTERNAL ACADEMIC SERVICE

### Society Memberships

*Ecological Society of America*  
*Entomological Society of America*  
*Ecological Society of Japan*  
*Society for the Study of Evolution*  
*American Society of Naturalists*

*Society of Systematic Biology*  
*Society of Integrative & Comparative Biology*  
*International Biogeography Society*  
*Japan Society of Mathematical Biology*  
*Inter. Union for the Study of Soc. Insects*

### Subject/Associate Editor

*The American Naturalist* (2021-present)  
*Current Research in Insect Science* (2020-present)  
*Journal of Biogeography* (2019-present)  
*Myrmecological News* (2017-present)

### Peer Reviewer

*American Journal of Botany*  
*Aquatic Ecology*  
*The American Naturalist*  
*Biodiversity Conservation*  
*Biological Invasions*  
*Biological Reviews*  
*Biology Letters*  
*Bulletin of Math. Biology*  
*Conservation Letters*  
*Current Biology*  
*Diversity and Distributions*

*Ecology*  
*Ecology Letters*  
*Ecography*  
*Functional Ecology*  
*Global Ecol. & Biogeogr.*  
*Journal of Biogeography*  
*Journal of Ecology*  
*J. of Environmental Manag.*  
*J. of Theoretical Biology*  
*Landscape Ecology*  
*Myrmecological News*

*Nat. Science Found. (USA)*  
*Nature Communications*  
*Oikos*  
*PLoS Biology*  
*PLoS ONE*  
*PLoS Comp. Biology*  
*PNAS*  
*Proc. Roy. Soc. B.*  
*Science Advances*  
*Swiss Nat. Science Found.*

### Symposia, Conferences, and Workshops Organized

- 2024 (upcoming): International Congress of Entomology (ICE 2024), Kyoto, General Affairs Committee
- 2023 (upcoming): OIST Workshop on the Evolutionary Analysis of Morphology, primary organizer
- 2020: OIST Mini-symposium: Ant Biodiversity Data Synthesis- Present and Future
- 2019: SWARM2019: The 3<sup>rd</sup> International Symposium on Swarm Behavior and Bio-Inspired Robotics, co-lead organizer and local host (200 participants)
- 2018 OIST mini-symposium “Advances in imaging, quantifying, and understanding the evolution of ant phenotypes”
- 2017 OKEON Chura-Mori Project Symposium
- 2017 Ecological Society of Japan Meeting Symposium, “Big Data in Ecology and Evolution”
- 2015 East Asia Joint Symposium (EAJS) (co-organizer)
- 2014 Ecological Society of Japan, “Island Biogeography: Integrating Ecological and Evolutionary Perspectives”
- 2014 IUSSI “Island Biology of Social Insects.”

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## PRESENTATIONS

### Invited Talks

- 2023 Biogeography of Tropical Asia Symposium, Singapore (Keynote, upcoming)
  - 2023 Japan Society of Evolutionary Studies Annual Meeting (Plenary)
  - 2022 International Union Study of Social Insects Congress (symposium)
  - 2022 Concordia University, Department of Biology
  - 2022 McGill University, Department of Biology
  - 2022 Texas A&M University, Department of Entomology
  - 2022 University of Texas at Austin, Section of Integrative Biology
  - 2021 City College of New York, Department of Biology
  - 2021 UMass Lowell, Department of Biology
  - 2021 Yale University, Department of Ecology and Evolutionary Biology
  - 2021 EU-IUSSI annual meeting (Symposium)
  - 2019 Sorbonne University, Institute of Ecology and Environmental Sciences
  - 2019 University of Lausanne, Department of Ecology and Evolutionary Biology
  - 2019 Ecological Society of Japan (Symposium)
  - 2018 Taiwan Entomological Society (Keynote)
  - 2018 UC-Berkeley, Department of Environmental Science, Policy, and Management
  - 2017 Kyoto University, Asia Research Node Symposium
  - 2016 International Colloquium on Soil Zoology (Plenary)
  - 2016 International Congress of Entomology (Symposium)
  - 2016 Ludwig Maximilian University Munich (Ants 2016 Symposium)
  - 2015 University of Cambridge, Department of Zoology
  - 2015 Society of Population Ecology Meeting (Symposium)
  - 2014 Kyoto University, Evolutionary Community Ecology Symposium
  - 2013 Kyoto University, Symposium in honor of E.O. Wilson and the Kyoto Prize
  - 2013 University of the Ryukyus, Japan
  - 2012 Ecological Society of Japan Meeting (Symposium)
  - 2011 Society of Population Ecology Meeting (Symposium)
  - 2011 University of Alabama
  - 2011 Okinawa Institute of Science and Technology
  - 2011 University of Queensland
  - 2011 International Biogeography Society Meeting (Symposium)
  - 2010 University of British Columbia
  - 2010 Field Museum of Natural History
  - 2010 UM/SFI Complex Systems Symposium
  - 2004 University of New Mexico
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## GRANTS AND FELLOWSHIPS

- 2023-2025 Research Grant Council Hong Kong. (\$146,418) “A stage- and trait-based approach to understand global ant invasion patterns and invasion mechanisms” (PI: B. Guénard, Co-I: E. Economo)
- 2023-2025 Japan Ministry of Environment Grant.(\$481,291 total, \$158,826 to OIST) “Research and development of efficient and reliable prediction and control measures of invasive alien ant species.” (PI: K. Tsuji, Co-PI: E. Economo)
- 2021-2024 Strategic Environmental Research and Development Program. “Next Generation Biosecurity Monitoring of Invasive Alien Arthropod Species.” (~\$2.9 million total, PI: G. Roderick, Co-PI: E. Economo)
- 2021-2022 Radcliffe Fellowship, Radcliffe Institute of Advanced Study, Harvard University
- 2019-2022 Japan Ministry of Environment Grant (~\$1 million, ~\$250,000 to OIST), “Developing Countermeasures for Invasive Alien Species” (PI: K. Tsuji, Co-PI: E. Economo)
- 2016-2019 Okinawa Prefectural Government Grant (~\$1.2 million), “Developing a system for fire ant surveillance, prevention, and control in Okinawa”.(PI: E. Economo)
- 2017-2019 Japanese Society for the Promotion of Science, Grant-in-Aid of Research (Kakenhi, ~\$50K)
- 2012-2017 National Science Foundation (DEB 1141989), Phylogenetic Systematics \$378,522. "Evolving hyperdiversity in phenotypic, ecological, and geographic networks: testing the taxon cycle and alternatives in Indo-Pacific *Pheidole*" (PI: E. Economo, Co-PI: E. L. Knowles).
- 2009-2012 Michigan Society of Fellows Postdoctoral Fellowship
- 2009 Marion Elizabeth Eason Scholarship, University of Texas
- 2005-2009 National Science Foundation Graduate Research Fellowship
- 2004-2005 NSF IGERT Graduate Training Fellowship in Computational Phylogenetics
- 2004 Santa Fe Institute Complex Systems Summer School
- 2007 EEB Research Fellowship
- 2006 EEB Research Fellowship
- 2005 EEB Research Fellowship
- 2003 University of Texas Dean's Excellence Preemptive Fellowship
- 2004 NSF Graduate Research Fellowship Honorable Mention
- 2001 Honors College Undergraduate Research Grant, U. of Arizona
- 2001 Research Training Grant in the Analysis of Diversification, U. of Arizona

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## AWARDS AND HONORS

- 2019 Ecological Research Award (for one of top papers in *Ecological Research* in 2018)
- 2017 Top ten new species for *Pheidole drogon* (given by ESF-SUNY)
- 2016 Biodiversity Action Award (to OKEON project)
- 2013 Presidential Award from American Society of Naturalists (For best paper published in *The American Naturalist* in 2012)
- 2009 Nominated for Distinguished Dissertation Award, University of Texas
- 2004 Teaching Award, School of Biological Sciences, University of Texas

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## CLASSROOM TEACHING

- 2019 B16 “Ecology & Evolution” Primary instructor, OIST, 9 students
- 2018 B16 “Ecology & Evolution” Primary instructor, OIST, 8 students
- 2018 A406, “Independent Study”, OIST, 1 student
- 2017 B16 “Ecology & Evolution” Primary instructor, OIST. 6 students
- 2016 B16 “Ecology & Evolution” Primary instructor, OIST, 5 students
- 2015 B16 “Ecology & Evolution” Primary instructor, OIST, 6 students
- 2014 A406 “Independent Study”, OIST, 1 student
- 2014 B16 “Ecology & Evolution” Primary instructor, OIST, 2 students
- 2013 A302 “Ecology & Evolution” Primary instructor, OIST, 5 students
- 2011 “EEB Senior Capstone”, primary instructor. U. of Michigan.
- 2011 “Insect Ecology & Evolution” (graduate seminar) primary instructor. U. of Michigan.
- 2010 “General Ecology”, primary instructor, U. of Michigan
- 2009 TA for “Ecology”, 2 guest lectures. U. of Texas at Austin.
- 2004 TA for “Ecology, Evolution and Society”, 3 guest lectures. U. of Texas at Austin. Won graduate teaching award from the School of Biological Sciences.

### Summer School:

- 2013 Co-organized “OIST Integrative Biology Course: Big Data in Biology”  
(<https://groups.oist.jp/oibc>)

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## MENTORSHIP

### OIST Postdoctoral Fellows & Staff Scientists

2012-2014 Benoit Guénard	2017-2020 Nao Takashina (JSPS Fellow)
2012-2014 Beatrice Lecroq-Bennett	2018-2021 Susan Kennedy
2013-2018 Masashi Yoshimura	2019-present Jamie Kass (JSPS fellow)
2015-2018 Clive Darwell	2021-present Larisa Kiselva
2014-2020 Georg Fischer	2021-2022 Nurit Eliash
2015-2020 Nicholas Friedman	2022 Joshua Gibson (JSPS fellow)
2016-present Francisco Hita Garcia	2023-present Riou Mizuno

### OIST PhD Student Thesis Supervision

2012-2018 Cong Liu	2017-present Julian Katzke
2013-2019 Patricia Wepfer (co-supervised)	2017-present Yazmin Zurita Gutierrez
2014-2019 Yafei Mao (co-supervised)	2018-present Gaurav Agavekar
2015-2021 Yuka Suzuki	2018-present Lazzat Aibekova
2016-2021 Evropi Toulkeridou (co-supervised)	2018-present Shubham Gautam

### OIST PhD Rotation Students

2012 Keita Ikegami	2013 Han Yan
2012 Cong Liu	2013 Sandrine Burriel

2014 Yafei Mao  
2014 Yuna Hattori  
2014 Matti Krueger  
2014 Margaret Brisbin  
2015 Jason Ball  
2015 Yuka Suzuki  
2016 Menglin Wang  
2016 Christopher Campbell  
2017 Julian Katzke

2017 Otis Brunner  
2018 Yazmin Zurita Gutierrez  
2018 Shubham Gautam  
2018 Lazzat Aibekova  
2018 Gaurav Agavekar  
2019 Mohamed Boubakour  
2019 Michael Izumiyama  
2020 Kota Ishikawa  
2020 Masato Hirota

### **OIST Research Interns and Visiting Research Students**

2012 Sandrine Burriel  
2013 Patricia Wepfer  
2013 Benjamin Blanchard  
2013 Guilherme Baiao  
2014 Juliette Martin  
2015 Brett Morgan  
2015 Julia Janicki  
2015 Natalie Greenhalgh  
2015 Matt Ziegler  
2016 Haruka Kasuga  
2016 Aina Urano  
2016 Kotaro Fujiyoshi  
2016 Victoria McGruer  
2016 Gaurav Agavekar  
2016 Sam Ross

2017 Adam Khalife  
2017 Tracy Audisio  
2018 Zachary Lieberman  
2018 Fumika Azuma  
2018 Alexandre Ferreira  
2019 Kelvin Chen  
2019 Adrian Richter  
2019 April Lamb  
2022 Lily Tashiro  
2023 Azumi Kudaka  
2023 Arthur Matte  
2023 Jordan Drapin  
2023 Karen Kohama  
2023 Minsoo Dong

### **OIST PhD Student Mentor**

(advisory, not thesis supervisor)

Tomohito Wauke  
Maki Kohata Thomas  
Christine Guzman  
Miles Desforges

Jekaterina Stemmere  
Tracy Audisio  
Stefano Pascarelli

### **OIST PhD Thesis Committee Membership**

(not including my own PhD students, see above)

Qiong Huang  
Tadashi Kazuno  
Robert Campbell  
Agneesh Barua

Menglin Wang  
Otis Brunner  
Alexsandra Blizina  
Tracy Audisio

### **OIST-Supported Affiliated Researchers**

(Off-site researchers who have worked with our lab with OIST funding support)

2012-2020 Eli Sarnat  
2018 Roberto Keller

**OIST Research Technicians**

2012 Adam Lazarus

2013-2014 John Deyrup

2013-2014 Nitish Narula

2015-2017 Julia Janicki

2014-2020 Kenneth Dudley

2018-present Fumika Azuma

2019-2022 Kosmas Deligkaris

2021-present Miyuki Suenaga

2023-present Dimitris Petsoupoulos

**University of Michigan (2009-2012)**

Supervised eleven undergraduate research projects (6 students) for independent study credit or work study (through UROP).

**University of Texas at Austin (2003-2009)**

Supervised 6 undergraduate students on undergraduate research

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**OTHER EMPLOYMENT**

2002-2003 Research Technician, University of Arizona, Department of Ecology & Evolutionary Biology, lab of Brian J. Enquist.

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