

CONTACT

Center for International Collaboration and Advanced Studies in Primatology (CICASP) Kyoto University Primate Research Institute 41-2 Kanrin, Inuyama, Aichi, Japan, 484-8506
Phone: +81 (0)80-6920-2845
Email: andrew.j.j.macintosh@gmail.com
URL1: www.cicasp.pri.kyoto-u.ac.jp/people/andrew-macintosh
URL2: www.macintoshlab.com

EMPLOYMENT HISTORY

2017~ Associate Professor, Kyoto University Primate Research Institute
2014~2017 Associate Professor, Kyoto University Wildlife Research Center
2012–2014 Assistant Professor, CICASP
2011–2012 Research Associate (Postdoc), CICASP
2010–2011 Research Fellow (Postdoc), Department of Ecology and Social Behavior

EDUCATION HISTORY

2007–2010 Primate Research Institute, Kyoto University (Doctor of Science, DSc)
2000–2002 Department of Anthropology, University of Calgary (Master of Arts, MA)
1997–2000 Department of Anthropology, University of Calgary (Bachelor of Science, BSc)

AWARDS & SCHOLARSHIPS

2013 Takashima Prize, Primate Society of Japan & Kyoei Steel Co. (research excellence)
2013 Primates most-cited paper award, Japan Monkey Center, Primate Society of Japan, Springer
2007 DSc scholarship: Ministry of Education, Culture, Sports, Science and Technology (MEXT) Monbukagakusho scholarship, Japan, 150,000 yen/month (ca. 1,500 USD) * 3.5 years
2001 MA scholarship: Province of Alberta Graduate Scholarship (PAGS), Canada, 12,000 CAD

RESEARCH KEYWORDS

• behavioural ecology • behavioural organization • social and ecological networks • parasite/disease ecology • wildlife epidemiology • health and conservation • biostatistics • complexity science/theory (biological fractals)

RESEARCH GRANTS

2020 Japan Society for the Promotion of Science (JSPS) Grant-in-Aid for Scientific Research B, Japan, ~17,000,000JPY (ca. 160,000 USD) #20H03333 [4 years]
2019 JSPS/CAS bilateral grant Japan/Czech (PI: Klara Petrzekova, Czech Academy of Science & Keiko Matsuura, Oita University) #JPJSBP120192506 [2 years]
2018 JSPS Grant-in-Aid for Scientific Research C, Japan (PI: Naoki Agetsuma, Hokkaido University) [3 years]
2016 JSPS Grant-in-Aid for Young Scientists A, Japan, 16,200,000 JPY (ca. 150,000 USD) #16H06181 [4 years]
2015 Kyoto University Step Up Grant, Japan, 1,600,000 JPY (ca. 13,000 USD) [1 year]
2014 JSPS ‘Sakura’ grant Japan/France (PI: Akinori Takahashi, National Institute of Polar Research) [2 years]
2012 JSPS Grant-in-Aid for Young Scientists B, Japan, 3,500,000 JPY (ca. 35,000 USD) #24770232 [3 years]

2012 JSPS Research Exchange Grant, Japan/France, 575,000 JPY (ca. 7,000 USD) [1 year]

INVITED LECTURES/SEMINARS

- 2021 *Vignettes from the wormy world of primates: behavioral ecology of host-parasite interactions viewed through a primate lens*. University of Lausanne, Switzerland. Online
- 2020 *Show me chaos! Measuring organizational complexity through fractal time series analysis of behavior sequences in indicator species*. International Bio-logging Society Webinar – Approaches to Modeling Bio-logging Data. Online
- 2019 (1) *Show me chaos! Fractal time in animal behavior as a bioindicator of ecological challenge*; (2) *Behavioral ecology and epidemiology of gastrointestinal parasitism in primates: patterns, processes and host responses* (Czech Academy of Sciences, Czechia)
- 2017 *Monkeys in the middle: sociality and parasitism in a primate-helminth model system* (Primate and Evolutionary Anthropology Young Scholars Forum, Sun Yat Sen University, Guangzhou, China)
- 2017 *Parasites and primate social systems evolution* (SoHaPi Workshop, German Primate Center (DPZ), Gottingen, Germany)
- 2016 (1) Project l'AMMER: Adélie Penguins as Monitors of the Marine Environment; (2) *The Wormy World of Primates: Vignettes from an Empirical Model System in Japan* (National Institute of Ecology, South Korea)
- 2013 *Complexity lost: assessing behavioural organization in stress and disease* (Central European Institute of Technology mini-symposium and HPI-lab workshop, University of Veterinary and Pharmaceutical Sciences Brno, Czech Republic)
- 2013 *The complex primate: interdisciplinary science and the math behind the monkey* (Takashima Prize Lecture at the 29th Congress of the Primate Society of Japan, Okayama)
- 2013 *Epidemiology of nematode parasite infection among wild Japanese macaques: heterogeneity in the external and internal environments* (Symposium: “Ecological Roles of Primates in Forest Ecosystems”, KUPRI, Japan)
- 2012 *A fractal ethos for ethology: revealing behavioural stereotypes in stress and disease* (German Primate Center (DPZ) Kolloquium Series, Gottingen, Germany)

TEACHING

- 2017~ Lecturer: *Conservation Biology, Zoo Biology, Comparative Cognition*, Kyoto University
- 2014~ Lecturer: *Animal Behavior*, Kyoto University
- 2016~ Instructor (field school): *Yakushima Field and Genome Science Training Course*, Kyoto University [semi-annual]
- 2011~ Instructor: *CICASP Seminar in Science Communication*, KUPRI [ongoing weekly]
- 2011 Instructor (field school): *Formation of a strategic base for biodiversity & evolutionary research: from genome to ecosystem* (Japan), Kyoto University Global COE Program
- 2003 Instructor: *English as a Foreign Language* (EFL), Tokyo, Japan [3 years]
- 2001 Teaching Assistant (field school): *Field Primatology* (Ghana), University of Calgary
- 2001 Teaching Assistant: *Primate Behaviour*, University of Calgary
- 2000 Teaching Assistant: *Introduction to Social and Cultural Anthropology*, University of Calgary

GRADUATE STUDENTS & POSTDOCTORAL FELLOWS SUPERVISED

- 2021~ Doctoral Student: Katherine Majewski (“*Impact on small carnivore community and infectious disease dynamics on Yakushima Island resulting from the introduction of non-native raccoon dogs (*Nyctereutes procyonoides*)*”)

- 2019~ JSPS Postdoctoral Fellow: Cecile Sarabian (“*Cognitive and physiological responses to disgust elicitors in chimpanzees*”)
- 2019~ Doctoral Student: Kenneth Keuk (“*Networks, uncertainty and epidemiology*”)
- 2019~ Master’s Student: Abdullah Langgeng (“*Investigating the effects of hot spring bathing on parasitism and gut bacterial communities in a nonhuman primate*”)
- 2018~ Master’s Student: Zhihong Xu (“*Linking social interactions with parasitism in complete and incomplete networks*”)
- 2018~ JSPS Postdoctoral Fellow: Marie Sigaud (“*Measuring fitness costs of habitat degradation in an endangered primate*”)
- 2017~ JSPS Postdoctoral Fellow: Barbora Kubenova (“*Infant handling and social integration of infants and juveniles in wild Japanese macaques*”)
- 2017~2019 JSPS Postdoctoral Fellow: Valeria Romano (“*Understanding the link between environmental pressures, sociality and health*”)
- 2016~2018 JSPS Postdoctoral Fellow: Julie Duboscq (“*Connecting the dots: linking host behavior to parasite transmission and infection risk*”)
- 2016 Master’s Student: Kenneth Keuk (“*Social networks, social style and the dynamics of parasite infection*”; University of Strasbourg, France)
- 2015~2019 Doctoral Student: Liesbeth Frias (“*Host-Parasite Systems Dynamics in Human-Modified Habitats*”)
- 2015~2019 Doctoral Student: Cecile Sarabian (“*The Origins of Hygiene: Infection-risk Avoidance in Papionini and Hominidae*”)
- 2015~2017 Graduate Student: Kelly Finn (“*Complexity as a new frontier in primate behavior, ecology and cognition*”; University of California at Davis, USA)
- 2013~2016 Doctoral Student: Xavier Meyer (“*Does complexity in behavioral organization allow seabirds to adapt to changes in their environment?*”; University of Strasbourg, France)
- 2013~2017 Doctoral Student: Valeria Romano de Paula (“*Primate Social Networks as a Trade-off between Information and Disease Transmission*”; University of Strasbourg, France)
- 2013~2018 Doctoral Student: Jade Burgunder (“*Complexity in Behavioral Organization: a Novel Approach to Assessing Clinical Outcomes of Parasitic Diseases*”; Masaryk University, Czech Republic)
- 2013–2015 Postdoctoral Fellow: Julie Duboscq (“*Social networks as a trade-off between optimal decision-making, information transmission and reduced disease transmission*”; University of Strasbourg Institute for Advanced Studies, France)
- 2013 Master’s student: Elodie Thomas (“*Influence of Nematode Parasites on Stress among Koshima Macaques, *Macaca fuscata**”; University of Toulouse, France)
- 2012–2014 Master’s student: Cecile Sarabian (“*Hygienic Tendencies Constrain Geohelminth Infection in Free-ranging Macaques*”; Rennes 1 University, France)

SCIENTIFIC OUTREACH

- 2012~ *The PrimateCast* – a podcast series dedicated to the study and conservation of primates (host, producer) www.theprimatecast.com; www.cicasp.pri.kyoto-u.ac.jp/news/podcasts
- 2011 Public Lecture: *Of worms and monkeys: the secret struggle for health in the wild* (“Yakushima Kenkyuu Koza”, co-hosted by the Kyoto University Global COE Program and The Yakushima Environmental Culture Foundation, Japan) (in Japanese)

OTHER PROFESSIONAL EXPERIENCE

Editorial Assignments: *Frontiers in Ecology and Evolution* (2019~), *Primates* (Advisory Board: 2017~), *EcoHealth* (2016~), *Scientific Reports* (2015~2020), *Primate Research* (2015~)

ad hoc reviewer: *Behav. Ecol. Sociobiol.*, *IJPPAW*, *Kor. J. Parasitol.*, *Mol Ecol Resources*, *EcoHealth*, *PNAS*, *Phil. Trans. R. Soc. B. Biol. Sci.*, *Proc. R. Soc. B. Biol. Sci.*, *Anim. Behav.*, *Am. J. Primatol.*, *Int. J. Primatol.*, *Primates*, *Ethology*, *Behav. Proc.*, *PLoS ONE*, *Peer J*, *Int. J. Parasitol.*, *Integr. Zool.*, *Am. Soc. Trop. Med. Hyg.*, *Folia Primatol.*, *National Science Foundation (USA)*, *European Science Foundation*, *Oxford University Press*, *The Leakey Foundation*, *Nat Geo Society*, *Ranger Rick*

Symposium Organization: *10 years of CICASP: making an impact within and beyond Academia in a global community*, 12th International Symposium on Primatology and Wildlife Science (September, 2019); *Penguins, in Full Color*, 10th International Symposium on Primatology and Wildlife Science (September, 2018)

PUBLICATIONS

Refereed Journal Articles: 55

Book Chapters: 10

Google Scholar: <http://scholar.google.co.jp/citations?user=zCPdEMoAAAAJ&hl=en>

JOURNAL ARTICLES

*These authors contributed equally to this work

†Invited Paper

1. Cheron M, Raelison L, Kato A, Ropert-Coudert Y, Meyer X, MacIntosh A, Brischox F (In Press) Ontogenetic changes in activity, locomotion and behavioural complexity in tadpoles. *Biol J Linnean Soc*
2. Xu Z, MacIntosh AJJ, Casellano-Navarro A, Macanas-Martinez E, Suzumura T, Duboscq J (2021) Linking Parasitism to Network Centrality and the Impact of Sampling Bias in its Interpretation. *bioRxiv* DOI: 10.1101/2021.06.07.447302
3. Sarabian C, Belais R, **MacIntosh AJJ** (2021) Avoidance of contaminated food correlates with low protozoan infection in bonobos. *Front Ecol Evol* 9:651159
4. Frias L, Hasegawa H, Chua TH, Sipangkui S, Stark D, Salgado-Lyn M, Goossens B, Keuk K, Okamoto M, **MacIntosh AJJ** (2021) Parasite community structure in sympatric Bornean primates. *Int J Parasitol* DOI: 10.1016/j.ijpara.2021.03.003
5. Gomez-Melara JL, Acosta-Naranjo R, **MacIntosh AJJ**, Maulany RI, Ngakan PO, Amici F (2021) Dominance style predicts differences in food retrieval strategies. *Sci Rep* 11:2726
6. Amici F, Widdig A, **MacIntosh AJJ**, Beltrán Francés V, Castellano-Navarro A, Lopez Caicoya, Karimullah K, Maulany RI, Ngakan PO, Hamzah AS, Majolo B (2020) Dominance style only partially predicts differences in neophobia and social tolerance over food in four macaque species. *Sci Rep* 10:22069
7. Beltrán Francés V, Castellano-Navarro A, Maulany RI, Ngakan PO, **MacIntosh AJJ**, Llorente M, Amici F (2020) Play behavior in immature moor macaques (*Macaca maura*) and Japanese macaques (*Macaca fuscata*). *Amer J Primatol* 82(10):e23192.
8. Romano V, **MacIntosh AJJ**, Sueur C (2020) Stemming the flow: information, infection, and social evolution. *Trends in Ecology and Evolution* 35(10): 849-853.
9. Miyabe-Nishiwaki T, Miwa M, Konoike N, Kaneko A, Ishigami A, Natsume T, **MacIntosh AJJ**, Nakamura K (2020) Evaluation of anaesthetic and cardiorespiratory effects after intramuscular administration of alfaxalone alone, alfaxalone-ketamine and alfaxalone- butorphanol -medetomidine in common marmosets (*Callithrix jacchus*). *J Med Primatol* 49(6):291-299

10. Meyer X, [MacIntosh AJJ](#), Chiaradia A, Kato A, Ramirez F, Sueur C, Ropert-Coudert Y (2020) Oceanic thermal structure mediates dive sequences in a foraging seabird. *Ecol Evol* 10:6610–6622
11. Sarabian C, Ngoubangoye B, [MacIntosh AJJ](#) (2020) Divergent strategies in faeces avoidance between two cercopithecoïd primates. *R Soc Open Sci* 7: 191861.
12. Tasdemir D, [MacIntosh AJJ](#), Stergiou P, Kaiser M, Mansour N, Bickle Q, Huffman MA (2020) Antiprotozoal and antihelminthic properties of plants ingested by wild Japanese macaques (*Macaca fuscata yakui*) in Yakushima Island. *J Ethnopharmacol* 247:112270
13. Romano V, [MacIntosh AJJ](#), Sueur C (2020) The trade-off between information and pathogen transmission in animal societies. *EcoEvoRxiv* DOI:10.32942/osf.io/vqt4g
14. Hasegawa H, Frias L, Peter S, Hasan NH, Stark D, Salgado-Lyn M, Sipangkui S, Goossens B, Matsuura K, Okamoto M, [MacIntosh AJJ](#) (2020) First description of male worms of *Enterobius* (*Colobenterobius*) *serratus* (Nematoda: Oxyuridae), the pinworm parasite of proboscis monkeys. *Zootaxa* 4722(3):287–294
15. Miyabe-Nishiwaki T, [MacIntosh AJJ](#), Kaneko A, Morimoto M, Suzuki J, Akari H, Okamoto M (2019) Hematological and blood chemistry values in captive Japanese macaques (*Macaca fuscata fuscata*). *J Med Primatol* 48:338–350
16. Frias L, Stark DJ, Salgado Lynn M, Nathan S, Goossens B, Okamoto M, [MacIntosh AJJ](#) (2019) Molecular characterization of nodule worm in a community of Bornean primates. *Ecol Evol* 9:3937-3945
17. Poirotte C*, Sarabian C*, Ngoubangoye B, [MacIntosh AJJ](#), Charpentier M (2019) Faecal avoidance differs across sexes but not with nematode infection-risk in mandrills. *Anim Behav* 149:97-106
18. Frias L, Hasegawa H, Stark DJ, Salgado-Lynn M, Nathan KSS Senthilvel, Chua T, Goossens B, Okamoto M, [MacIntosh AJJ](#) (2018) A pinworm's tale: the evolutionary history of *Lemuricola* (*Protenterobius*) *nycticebi*. *Int J Parasitol: Parasites & Wildlife*. 8:25-32
19. Le Guen C, Kato A, Raymond B, Barbraud C, Beaulieu M, Bost, C-A, Delord K, [MacIntosh AJJ](#), Meyer X, Raclot T, Sumner M, Takahashi A, Thiebot J-B, Ropert-Coudert Y (2018) Reproductive performance and foraging behaviour share a common sea-ice concentration optimum in Adélie penguins (*Pygoscelis adeliae*). *Global Change Biol* 24:5304–5317
20. Romano V, Shen M, Pansanel J, [MacIntosh AJJ](#), Sueur C (2018) Social transmission in networks: global efficiency peaks with intermediate levels of modularity. *Behav Ecol Sociobiol* 72:154
21. Burgunder J, Petrzekova KJ, Modry D, Kato A, [MacIntosh AJJ](#) (2018) Fractal measures in activity patterns: do gastrointestinal parasites affect the complexity of sheep behaviour? *Appl Anim Behav Sci* 205:44-53
22. Sarabian C, Belais R, [MacIntosh AJJ](#) (2018) Feeding decisions under contamination risk in bonobos. *Phil Trans B* 373: 20170195
23. Frias L, Stark DJ, Salgado Lynn M, Nathan SKSS, Goossens B, Okamoto M, [MacIntosh AJJ](#) (2018) Lurking in the dark: Cryptic *Strongyloides* in a Bornean slow loris. *Int J Parasitol: Parasites & Wildlife* 7:141-146.
24. Sarabian C, Ngoubangoye B, [MacIntosh AJJ](#) (2017) Avoidance of biological contaminants through sight, smell and touch in chimpanzees. *R Soc Open Sci* 4:170968
25. Balasubramaniam KN, Beisner BA, Berman CM, De Marco A, Duboscq J, Koirala S, Majolo B, [MacIntosh AJ](#), McFarland R, Molesti S, Ogawa H, Petit O, Schino G, Sosa S, Sueur C, Thierry B, de Waal FBM, and McCowan B (2017) The influence of phylogeny, social style, and sociodemographic factors on macaque social network structure. *Am J Primatol* 80(1):e22727
26. Duboscq J, Romano V, Sueur C, [MacIntosh AJJ](#) (2017) One step at a time in investigating relationships between self-directed behaviours and parasitological, social and environmental variables. *R Soc Open Sci* 4:170461
27. Meyer X, [MacIntosh AJJ](#), Chiaradia A, Kato A, Mattern T, Sueur C, Ropert-Coudert Y (2017) Shallow divers, deep waters, and the rise of behavioural stochasticity. *Mar Biol* 164:149
28. Burgunder J, Hashimoto C, Modry D, Kalousova B, Petrzekova K, [MacIntosh AJJ](#) (2017) Complexity in behavioural organisation and strongylid infection among wild chimpanzees. *Anim Behaviour* 129:257-268
29. Duboscq J, Romano V, Sueur C, [MacIntosh AJJ](#) (2016) Scratch that itch: revisiting links between self-directed behaviour and parasitological, social and environmental factors in a free-ranging primate. *R Soc Open Sci* 3:160571

30. Rigaille L, [MacIntosh AJJ](#), Higham JP, Winters S, Shimizu K, Mouri K, Suzumura T, Furuichi T, Garcia C (2016) Testing for links between face color and age, dominance status, parity, weight, and intestinal nematode infection in a sample of female Japanese macaques. *Primates* 58:83-91
31. Duboscq J, Romano V, [MacIntosh A](#), Sueur C (2016) Social information transmission in animals: Lessons from studies of diffusion. *Front Psych* 7:1147
32. Romano V, Duboscq J, Sueur C, [MacIntosh AJJ](#) (2016) Modelling infection transmission in primate networks to predict centrality-based risk. *Am J Primatol* 78:767–779
33. Duboscq J, Romano V, Sueur C, [MacIntosh AJJ](#) (2016) Network centrality and seasonality interact to predict lice load in a social primate. *Sci Rep* 6:22095
34. Sarabian C, [MacIntosh AJJ](#) (2015) Hygienic tendencies correlate with low geohelminth infection in free-ranging macaques. *Biol Lett* 11:20150757
35. †[MacIntosh AJJ](#) (2015) At the edge of chaos – error tolerance and the maintenance of Levy statistics in animal movement: Comment on “Liberating Lévy walk research from the shackles of optimal foraging” by A.M. Reynolds. *Phys Life Rev* 14:105–107
36. Reynolds AM, Ropert-Coudert Y, Kato A, Chiaradia A, [MacIntosh AJJ](#) (2015) A priority-based queuing process explanation for scale-free foraging behaviours. *Anim Behav* 108:67-71
37. Meyer X*, [MacIntosh AJJ*](#), Kato A, Chiaradia A, Ropert-Coudert Y (2015) Hydrodynamic handicaps and organizational complexity in the foraging behavior of two free-ranging penguin species. *Anim Biotel* 3:25
38. Rigaille LR, [MacIntosh AJJ](#), Higham JP, Winters S, Shimizu K, Mouri K, Furuichi T, Garcia C (2015) Multimodal advertisement of pregnancy in free-ranging female Japanese macaques (*Macaca fuscata*). *PLoS ONE* 10(8): e0135127
39. Ropert-Coudert Y, Kato A, Meyer X, Pellé M, [MacIntosh AJJ](#), Angelier F, Chastel O, Widmann M, Arthur B, Raymond B, Raclot T (2015) A complete breeding failure in an Adélie penguin colony correlates with unusual, extreme environmental events. *Ecography* 38:111-113
40. †[MacIntosh AJJ](#) (2014) The fractal primate: interdisciplinary science and the math behind the monkey. *Pri Res* 30:95-119
41. †[MacIntosh AJJ](#) (2014) Ecology and epidemiology of nematode infection in Japanese macaques: building an empirical model. *Pri Res* 30:23-51
42. Pasquaretta C, Levé M, Claidière N, van de Waal E, Whiten A, [MacIntosh AJJ](#), Pelé M, Borgeaud C, Brosnan S, Crofoot M, Fedigan L, Fichtel C, Hopper L, Mareno MC, Petit O, Schnoell AV, di Sorrentino EP, Thierry B, Tiddi B, Sueur C (2014) Social networks in primates: smart and tolerant species have more efficient networks. *Sci Rep* 4:7600
43. Hill DA, Fukui D, Agetsuma N, [MacIntosh AJJ](#) (2014) Influence of trap environment on the effectiveness of an acoustic lure for capturing vespertilionid bats in two temperate forest zones in Japan. *Mammal Study* 39:229-236
44. Cottin M*, [MacIntosh AJJ*](#), Kato A, Takahashi A, Debin M, Raclot T, Ropert-Coudert Y (2014) Corticosterone administration leads to a transient alteration of foraging behaviour and complexity in a diving seabird. *Mar Ecol Progr Ser* 496:249-262
45. [MacIntosh AJJ*](#), Pelletier L*, Chiaradia A, Kato A, Ropert-Coudert Y (2013) Temporal fractals in seabird foraging behaviour: diving through the scales of time. *Sci Rep* 3:1884
46. Sueur C, [MacIntosh AJJ](#), Jacobs AT, Watanabe K, Petit O (2013) Predicting leadership using nutrient requirements and dominance rank of group members. *Behav Ecol Sociobiol* 67: 457-470
47. [MacIntosh AJJ](#), Jacobs A, Garcia C, Shimizu K, Mouri K, Huffman MA, Hernandez AD (2012) Monkeys in the middle: parasite transmission through the social network of a wild primate. *PLoS ONE* 7:e51144
48. Pebsworth PA, [MacIntosh AJJ](#), Morgan HR, Huffman MA (2012) Factors influencing the ranging behaviour of chacma baboons (*Papio hamadryas ursinus*) living in a human-modified habitat. *Int J Primatol* 33:872-887
49. Zhang P, Li BG, Qi XG, [MacIntosh AJJ](#), Watanabe K (2012) A proximity-based social network of a group of Sichuan snub-nosed monkeys (*Rhinopithecus roxellana*). *Int J Primatol* 33: 1081-1095

50. **MacIntosh AJJ**, Huffman MA, Nishiwaki K, Miyabe-Nishiwaki T (2012) Urological screening of a wild group of Japanese macaques (*Macaca fuscata yakui*): investigating trends in nutrition and health. *Int J Primatol* 33: 460-478
51. **MacIntosh AJJ**, Alados CL, Huffman MA (2011) Fractal analysis of behaviour in a wild primate: behavioural complexity in health and disease. *J R Soc Interface* 8(63):497–509
52. **MacIntosh AJJ**, Hernandez AD, Huffman MA (2010) Host age, sex, and reproductive seasonality affect nematode parasitism in wild Japanese macaques. *Primates* 51:353–364
53. **MacIntosh AJJ**, Sicotte P (2009) Vigilance in ursine black and white colobus monkeys (*Colobus vellerosus*): an examination of the effects of conspecific threat and predation. *Am J Primatol* 71:919–927
54. Sicotte P, **MacIntosh AJ** (2004) Inter-group encounters and male incursions in *Colobus vellerosus* in Central Ghana. *Behaviour* 141(5):533–553
55. **MacIntosh AJJ** (2001) Rank relations in two captive juvenile male black-handed spider Monkeys (*Ateles geoffroyi*): a case study. *Laboratory Primate Newsletter* 40(2):1–4

BOOK CHAPTERS

1. Frias L, **MacIntosh AJJ** (2020) Global Diversity and Distribution of Soil-Transmitted Helminths in Monkeys. In: S Knauf & L Jones-Engel (eds) *Neglected Diseases in Monkeys - From the Monkey-Human Interface to One Health*. Springer Nature, pp. 291-322
2. Balasubramaniam KN, Sueur C, Huffman MA, **MacIntosh AJJ** (2020) Primate Infectious Disease Ecology: Insights and Future Directions at the Human-Macaque Interface. In: J-H Li et al. (eds) *The Behavioral Ecology of the Tibetan Macaque*. Springer, pp. 249-284
3. Duboscq J, Romano V, **MacIntosh AJJ** (2019) Social Behavior and Infectious Disease. In: J Choe (ed) *Encyclopedia of Animal Behavior, 2nd edition*. Elsevier, pp. 790-800
4. Frias L, **MacIntosh AJJ** (2019) Threatened Hosts, Threatened Parasites? Parasite Diversity and Distribution in Red-Listed Primates. In: A Behie et al. (eds) *Primate Research and Conservation in the Anthropocene*. Cambridge University Press, pp. 141-164
5. **MacIntosh AJ**, Frias L (2018) Parasites of gibbons. In: D Modry et al. (eds) *Parasites of apes: an atlas of coproscopic diagnostics*. Edition Chimaira, pp. 76–82
6. **MacIntosh AJJ**, Frias L (2017) "Coevolution of Hosts and Parasites". In: A Fuentes et al. (eds) *The International Encyclopedia of Primatology*. Wiley
7. **MacIntosh AJJ** (2017) "Pathogen". In: A Fuentes et al. (eds) *The International Encyclopedia of Primatology*. Wiley
8. Huffman MA, **MacIntosh AJJ** (2012) Plant-food diet of the Arashiyama Japanese macaques and its potential medicinal value. In: Leca J-B, Huffman MA, Vasey P (eds) *The Monkeys of Stormy Mountain: 60 Years of Primatological Research on the Japanese Macaques of Arashiyama*. Cambridge University Press, pp. 356–432
9. **MacIntosh AJJ**, Huffman MA (2010) Towards understanding the role of diet in host-parasite interactions: the case for Japanese macaques. In: Nakagawa N, Nakamichi M, Sugiura H (eds) *The Japanese macaques*. Springer, pp. 323–344
10. Hernandez AD, **MacIntosh AJ**, Huffman MA (2009) Primate parasite ecology: patterns and predictions from an on-going study of Japanese macaques. In: Huffman MA, Chapman CA (eds) *Primate parasite ecology: the dynamics of host-parasite relationships*. Cambridge University Press, pp. 387–401

SELECTED CONFERENCE PRESENTATIONS

*Best presentation prize

†Invited Talk

1. Frias L and **MacIntosh AJJ** (2021) Worming into the Anthropocene: disturbed parasite communities as indicators of ecosystem health. Commonwealth Science Conference 2021. Virtual (Feb. 22nd–26th, 2021)

2. Langgeng A, [MacIntosh AJJ](#) (2021) The Diversity of Gastrointestinal Helminths in Japanese Macaques of Jigokudani Snow Monkey Park. The 15th International Symposium on Primatology and Wildlife Science, Virtual Symposium
3. [MacIntosh AJJ](#), Romano V, Duboscq J, Keuk K, Xu Z, Sueur C (2020) Monkeys in the Middle: Navigating the Costs and Benefits of Social Centrality. The 14th International Symposium on Primatology and Wildlife Science, Virtual Symposium
4. Xu Z, [MacIntosh AJJ](#) (2020) Comparative look at the transmission of parasites in macaque social and spatial networks. The 36th Congress of the Primatological Society of Japan. Virtual Conference
5. Keuk K, [MacIntosh AJJ](#) (2021) Enter SimuNet: a social network simulation framework, with a zest of empirism. The 15th International Symposium on Primatology and Wildlife Science, Virtual Symposium
6. Xu Z, [MacIntosh AJJ](#) (2020) Comparative look at the transmission of parasites in macaque social and spatial networks. The 14th International Symposium on Primatology and Wildlife Science, Virtual Symposium
7. Keuk K, [MacIntosh AJJ](#) (2020) Primate and Parasite communities in Sabah: the biodiversity-disease relationship across a Bornean landscape. The 14th International Symposium on Primatology and Wildlife Science, Virtual Symposium
8. Frias L, [MacIntosh AJJ](#) (2019) Worming into the Anthropocene: impacts of habitat fragmentation on parasite ecology. The 12th International Meeting of Asian Society of Conservation Medicine, Phnom Penh, Cambodia
9. [MacIntosh AJJ](#), Meyer X, Chiaradia A, Kato A, Ropert-Coudert Y (2019) *Show me chaos! seeking fractal time in the behavior of indicator species*. The 29th International Congress for Conservation Biology, Kuala Lumpur, Malaysia.
10. Sarabian C, Plotnik JM, Curtis V, Chapman C, [MacIntosh AJJ](#) (2019) Conservation through disgust and public health: Introducing a new framework. The 29th International Congress for Conservation Biology, Kuala Lumpur, Malaysia
11. Sarabian C, Curtis V, Chapman C, [MacIntosh AJJ](#) (2019) Disgust as a tool to mitigate human-primate conflicts and enforce appropriate ecotourism practices? The 2nd African Primatological Society Conference, Entebbe, Uganda
12. [MacIntosh AJJ](#), Frias L (2019) Altered parasite community structure in threatened primates. The 35th congress of the Primate Society of Japan, Kumamoto, Japan
13. [MacIntosh AJJ](#), Martin CF (2019) Show me chaos! seeking fractal time in captive animal behavior. The 14th International Conference on Environmental Enrichment, Kyoto, Japan
14. [MacIntosh AJJ](#), Meyer X, Chiaradia A, Kato A, Ropert-Coudert Y (2018) Just like clockwork? on the significance of periodic penguins. 10th International Symposium on Primatology and Wildlife Science, Kyoto, Japan
15. Sarabian C, Belais R, [MacIntosh AJJ](#) (2018) Feeding decisions under contamination risk in bonobos. The 27th International Primatological Society Congress, Nairobi, Kenya
16. Sarabian C, [MacIntosh AJJ](#) (2018) Do primates yuck? Pathogen and parasite avoidance behaviors in *Papionini* and *Hominini*. The 27th International Primatological Society Congress, Nairobi, Kenya
17. Frias L, Okamoto M, [MacIntosh AJJ](#) (2017) From the darkness: cryptic diversity of *Strongyloides* in a community of Bornean primates. 66th Annual International Conference of the Wildlife Disease Association, Chiapas, Mexico
18. Sarabian C, [MacIntosh AJJ](#) (2017) Pathogen and parasite avoidance behaviors: perspectives from *Papionini* and *Hominini*. The 35th International Ethological Conference (Behaviour 2017), Estoril, Portugal
19. Romano V., Puga-Gonzalez I., Sueur C., [MacIntosh AJJ](#) (2017) Modeling the evolution of social structure: from individual decisions to group-living trade-offs. Gottinger Freilandtage - Social complexity: patterns, processes and evolution, Gottingen, Germany
20. Duboscq J, [MacIntosh A](#) (2017) Connecting the dots: linking host behaviour to parasite transmission and infection risk. 7th meeting of the European Federation for Primatology, Strasbourg, France

21. Duboscq J, Okamoto M, **MacIntosh A** (2017) Infection patterns of simian foamy virus in macaques. 7th meeting of the European Federation for Primatology, Strasbourg, France
22. **MacIntosh AJJ**, Romano V, Duboscq J, Sueur C (2017) Monkeys in the middle: towards organisational immunity in primate societies. Royal Society Scientific Meeting on the Evolution of parasite and pathogen avoidance, Milton Keynes, UK
23. Frias L, Okamoto M, **MacIntosh A** (2016). Parasite sharing as a preliminary indicator of multispecies connectivity. 12th Conference of the European Wildlife Disease Association, Berlin, Germany
24. Frias L, Okamoto M, **MacIntosh A** (2016). Towards a primate parasite community ecology: parasite sharing in sympatric Bornean primates. The 26th Congress of the International Primatological Society, Chicago, USA
25. Frias L, Okamoto M, **MacIntosh A** (2016). Gastrointestinal parasite sharing in multi-host primate communities. 13th International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases, Antwerp, Belgium
26. Sarabian C, **MacIntosh AJJ** (2016) A primate's sense of cleanliness: perspectives from Papionini and Hominini. The 26th Congress of the International Primatological Society, Chicago, USA
27. Sarabian C, **MacIntosh AJJ** (2016) Revulsion in chimpanzees: health maintenance through avoidance of biological contaminants. Chimpanzees in Context, 'Understanding Chimpanzees' Symposium Series. Chicago, USA (ePoster in PeerJ collection "Chimpanzees in Context", *PEERJ PREPRINTS* 4:e1851v1: <https://doi.org/10.7287/peerj.preprints.1851v1>)
28. Sarabian C, **MacIntosh AJJ** (2016) Testing disgust in non-human primates. The 31st International Congress of Psychology, Yokohama, Japan (Poster)
29. **MacIntosh AJJ**, Meyer X, Kato A, Ropert-Coudert Y (2016) Diving into complexity: exploring fractality in seabird foraging behavior. The Seventh Symposium on Polar Science, National Institute of Polar Research, Tachikawa, Japan.
30. **MacIntosh AJJ**, Sarabian C, Duboscq J, Romano V, Kaneko A, Okamoto M, Suzumura T (2016) Parasites as a selective force in primate social systems evolution: perspectives from an empirical model. The 26th Congress of the International Primatological Society, Chicago, USA
31. **MacIntosh AJJ**, Sarabian C, Duboscq J, Romano V, Kaneko A, Okamoto M, Suzumura T (2016) Helminth parasites as potential regulators of Japanese macaque population dynamics. The 26th Congress of the International Primatological Society, Chicago, USA
32. Finn K, **MacIntosh A** (2016) Behavioral Organization and Parasites in Japanese Macaques (*Macaca fuscata*) on Koshima Island. The 26th Congress of the International Primatological Society, Chicago, USA
33. Martin C, **MacIntosh AJJ** (2016) Chaotic choice dynamics buffer chimpanzees and orangutans against exploitation by a computer algorithm in a solitary matching pennies task. The 26th Congress of the International Primatological Society, Chicago, USA
34. **Frias L, Okamoto M, **MacIntosh A** (2016) Parasite sharing in sympatric Bornean primates. 5th International Symposium on Primatology and Wildlife Science. Inuyama, Japan
35. **MacIntosh AJJ**, Sarabian C, Duboscq J, Thomas E, Romano V, Kaneko A, Okamoto M, Suzumura T (2015) Hidden constraints of chronic parasitism on health and fitness in Japanese macaques. The 31st Congress of the Primate Society of Japan, Kyoto, Japan
36. Duboscq J, Romano V, **MacIntosh A**, Sueur C (2015) A social network perspective on macaque social styles. The 38th meeting of the American Society of Primatologists, Bend, USA.
37. Duboscq J, Romano V, Sueur C, **MacIntosh A** (2015) Investigating infection risk and sociality: centrality interacts with seasonality to predict lice load in free-ranging female Japanese macaques, *Macaca fuscata*. The 38th meeting of the American Society of Primatologists, Bend, USA.
38. Rigai LR, **MacIntosh AJJ**, Higham JP, Winters S, Shimizu K, Mouri K, Furuichi T, Garcia C (2015) Multiple sexual signals of pregnancy in Japanese macaques. The 31st Congress of the Primate Society of Japan, Kyoto, Japan
39. Sarabian C, **MacIntosh A** (2015) Hygiene efficiency against parasites in Japanese macaques. The 31st Congress of the Primate Society of Japan, Kyoto, Japan

40. Hill DA, Anuar S, [MacIntosh AJJ](#), Ghazali A (2014) Acoustic lure gives increased efficiency for short-term surveys of bat diversity in tropical rainforest. The 13th European Bat Research Symposium, Sibenik, Croatia
41. [MacIntosh AJJ](#), Kato A, Ropert-Coudert Y (2014) Logging Complexity: ecological challenges and the emergence of behavioral organization. *Bio-logging Science* 5, Strasbourg, France.
42. Huffman MA, Mori H, Kawai S, Nahallage CAD, [MacIntosh AJJ](#) (2014) The human-primate interface: on-going zoonoses monitoring in Southeast Asia. The 4th International Congress on Asian Primates, Kyoto University and Bogor Agricultural University International Symposium, Bogor, Indonesia
43. Morino L, [MacIntosh AJJ](#) (2014) Gibbon songs and intergroup dynamics: a community-level network analysis. The 25th Congress of the International Primatological Society, Hanoi, Vietnam
44. Sueur C, Pasquaretta C, Leve M, Claidiere N, van de Waal E, [MacIntosh AJ](#), Pele M, Whiten A (2014) Information transmission efficiency in primate networks. The 25th Congress of the International Primatological Society, Hanoi, Vietnam
45. [MacIntosh AJJ](#) (2014) A field-experimental approach to primate-parasite interactions: filling in the knowledge-gaps. The 25th Congress of the International Primatological Society, Hanoi, Vietnam
46. Romano V, Duboscq J, Sueur C, [MacIntosh A](#) (2014) Modelling disease transmission in primate networks to predict epidemics. The 25th Congress of the International Primatological Society, Hanoi, Vietnam
47. Sarabian C, [MacIntosh A](#) (2014) In the dirt: hygienic behaviours and revulsion as parasite avoidance adaptations in Japanese macaques. The 25th Congress of the International Primatological Society, Hanoi, Vietnam
48. Duboscq J, Sueur C, Romano De Paula V, [MacIntosh A](#) (2014) Pseudoectoparasites: a promising tool for the study of parasite transmission in relation to social networks. The 25th Congress of the International Primatological Society, Hanoi, Vietnam
49. **Sarabian C, [MacIntosh AJJ](#) (2014) On the origins of hygiene: from Japanese macaques to African great apes. Origins of human mind annual symposium, International Institute for Advanced Studies, Kyoto, Japan
50. [MacIntosh AJJ](#) (2014) The complex animal: ecological constraints and the emergence of behavioural organization. Origins of human mind annual symposium, International Institute for Advanced Studies, Kyoto, Japan
51. Duboscq J, de Paula VR, Sueur C, [MacIntosh AJJ](#) (2013) Social networks as a trade-off between optimal decision-making, information transmission and reduced disease transmission. The 9th Congress of the Göttinger Freilandtage, Göttingen, Germany
52. [MacIntosh AJJ](#), Sarabian C, Thomas E, Suzumura T, Kaneko A, Takeshita S, Mouri K, Itoh M, Shimizu K, Okamoto M (2013) A field-experimental approach to primate-parasite interactions: filling in the knowledge-gaps. The 29th Congress of the Primate Society of Japan, Okayama, Japan
53. †[MacIntosh AJJ](#) (2013) The complex primate: interdisciplinary science and the math behind the monkey. Takashima Prize Lecture at the 29th Congress of the Primate Society of Japan, Okayama, Japan
54. [MacIntosh AJJ](#), Cottin M, Pelletier L, Kato A, Ropert-Coudert Y (2012) Primates, penguins, and periodicity: maintaining complexity in the face of ecological challenge. The 24th Congress of the International Primatological Society, Cancun, Mexico
55. [MacIntosh AJJ](#), Jacobs A, Garcia C, Huffman MA, Hernandez AD (2012) Socially-mediated parasite transmission: the role of dominance in exposure and susceptibility. The 24th Congress of the International Primatological Society, Cancun, Mexico
56. [MacIntosh AJJ](#), Jacobs A, Huffman MA, Hernandez AD (2011) Parasite transmission through social networks of Japanese macaques: a cost of grooming? The 26th Congress of the Primate Society of Japan, Inuyama, Japan. *Primate Res* 27(S):16
57. [MacIntosh AJJ](#), Huffman MA (2010) The fractal dimension: measuring behavioural complexity and its implications for evaluating the health of primates in the wild. The 23rd Congress of the International Primatological Society, Kyoto, Japan. *Primate Res* 26(S):146

58. **MacIntosh AJJ**, Hernandez, AD, Huffman MA (2008) The importance of host age and sex to the distribution of helminth parasites infecting free-ranging Yaku-Island macaques (*Macaca fuscata yaku*). The 31st Meeting of the American Society of Primatologists, West Palm Beach, USA. *Am J Primatol* 70(S1):67