

## ISAE Creativity Award 2022



The recipient of the 2022 ISAE Creativity Award was Professor **Georgia Mason**. Dr Joy Mench, Dr Cassandra Tucker and Dr Alexandra Harlander consider Dr Mason a thought leader based on the citation rate (H index 52; > 13,000 citations) of her 200+ publications (several in high-impact journals) and numerous invited talks (> 100, including keynotes at applied and basic science conferences); the many awards and honours, including the UFAW Medal, received during her exceptional career; and the high-profile interviews and media features about her work, underscoring its real-world impact. This conclusion was also the consensus of the award committee members, who granted the award to Dr Georgia Mason based on her track record of innovative science in animal behaviour, mentoring scientists and excellent publication record. In

addition, they agreed that her nomination demonstrated the qualities of a robust scientist. As Mark Rutter said during the ISAE awards ceremony, due to her extensive work she is one the most well-known animal welfare scientist around the world.

Dr Mason's colleagues found her creativity to be infectious. She also excels at cultivating and respecting creativity in students, as evident in awards she has received, institutional leadership she has shown in graduate mentorship and her request that work led by her students, e.g. innovative research into animal boredom and the welfare significance of play, be omitted from this nomination.

Dr Mason's research investigates how animals adapt to captive housing conditions, or fail to, especially when these meet animals' physiological needs but not their behavioral ones. Her work is characterized by clarity, rigor, novelty, multi-disciplinarity, and clever experimental and statistical methodologies. While her research is grounded in ethology, she has capitalized on other disciplines (e.g. evolutionary biology, neuroscience, microeconomics) to build a rich, diverse portfolio. Some of her most insightful experiments, and most important meta-analytic approaches, are highlighted below.

- Asking animals what they value

Dr. Mason's mink preference research [1] was the first to use a long-term closed economy and economically valid measures (consumer surplus, reservation price), and the first animal welfare publication in Nature. Cited more than 360 times and featured in our field's key textbooks, it resulted in tangible recommendations for mink housing across Europe and inspired similar uses of reservation price by other labs in the Netherlands, US and Canada. She has also used preference experiments to yield new insights into worrying changes in stereotypic animals: males lose out in mating competitions [2], and aging subjects' abnormal repetitive behaviors (ARBs) become hard to treat because of reduced motivation for enrichment - possibly indicating anhedonia [3].

- Using meta-analyses in welfare research

Dr. Mason was the first to apply Phylogenetic Comparative Methods (PCMs) - statistical approaches developed by evolutionary biologists - to welfare problems, using them as meta-analytic, non-experimental tools to identify animals' needs. Her first PCM study revealed that being naturally wide-ranging increases ARB and infant mortality in captive Carnivora ([4]; > 475 citations); while last year she and colleagues generated the first evidence (from parrots) that intelligent species have unique welfare needs when captive. Cited > 1500 times, her PCM work has since inspired similar studies by labs in the UK, Switzerland and Israel.

Her most recent meta-analyses pooled biomedical 'enrichment' experiments to demonstrate how conventional caging harms lab rodent health [5]. This ambitious collation of >200 studies and data from > 6000 animals showed that typical 'shoebox' cages exacerbate stress-sensitive diseases and shorten rodents' lifespans. In the few months since publication, this paper has been accessed >4500 times, and prompted many seminar invitations including to the pharmaceutical industry.

More information about Professor Georgia Mason work can be found at the [University of Guelph](#) or at her [research group blog](#).

Selected relevant publications:

[1] G. J. Mason, J. Cooper & C. Clarebrough (2001). Frustrations of fur-farmed mink. *Nature* 410: 35-36. doi: 10.1038/35065157

[2] M. Díez-León, J. Bowman, S. Bursian, H. Filion, D. Galicia, J. Kanefsky, A. Napolitano, R. Palme, A. Schulte-Hostedde, K. Scribner & G. Mason (2013). Environmentally enriched male mink gain more copulations than stereotypic, barren-reared competitors. *PLOS One* 8(11): e80494. doi: 10.1371/journal.pone.0080494

[3] S. C. Tilly, J. Dallaire & G. J. Mason (2010). Middle-aged mice with enrichment-resistant stereotypic behaviour show reduced motivation for enrichment. *Animal Behaviour* 80: 363-373. doi: 10.1016/j.anbehav.2010.06.008

[4] R. Clubb & G. Mason (2003). Captivity effects on wide-ranging carnivores. *Nature* 425: 473 - 474. doi: 10.1038/425473a

[5] J. Cait, A. Cait, R. W. Scott, C. B. Winder & G. J. Mason (2022). Conventional laboratory housing increases morbidity and mortality in research rodents: a meta-analysis. *BMC Biology* 20(1): 15. doi: 10.1186/s12915-021-01184-0

