

Dr Stephen Francis Mann



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(withheld)
stephenfmann@gmail.com
stephenfmann.isaphilosopher.com
stephenfmann

EDUCATION

- FEB 2016 **Doctor of Philosophy**
-DEC 2020 AWARDED DECEMBER 2020
Philosophy
Australian National University (ANU)
- SEPT 2013 **Doctor of Philosophy**
-JAN 2016 CANDIDACY WITHDRAWN TO ATTEND ANU
Philosophy
King's College London (KCL)
- SEPT 2006 **Master in Science**
-JUNE 2010 FIRST CLASS HONOURS
Mathematics and Philosophy
University of Bristol, UK

Areas of specialisation: Philosophy of biology, Philosophy of science, Computational modelling.

Areas of competence: Cultural evolution, Ethics of artificial intelligence, Philosophy of cognitive science.

CURRENT POSITIONS

DECEMBER 2022 - PRESENT

Juan de la Cierva Postdoctoral Fellow
Universitat de Barcelona

Investigating the relationship between *teleosemantics*, a theory of representation, and *communication theory*, a mathematical and engineering approach to signalling systems.

APRIL 2021 - PRESENT

Guest Researcher
Max Planck Institute for Evolutionary Anthropology

Developing a critical evaluation of the *free energy principle*, an explanatory framework that seeks to generalise evolutionary accounts of behaviour to many different kinds of system.

PREVIOUS ACADEMIC EMPLOYMENT

AUGUST 2021 - JUNE 2022

Postdoctoral Researcher
Surrey Morphology Group, University of Surrey

Developed computational models of language change using the Python and R programming languages.

FEB 2020 - MARCH 2020

Research Assistant
Centre of Excellence for the Dynamics of Language (ANU)

Began an analysis and computational model of the dynamics of cultural change in the songs of humpback whales. Unfortunately, due to the COVID-19 pandemic I left Australia earlier than planned. Funding rules meant this position was cut short.

PEER-REVIEWED PUBLICATIONS

Turner, C. R., **Mann, S. F.**, Spike, M., Magrath, R. D., and Sterelny, K. (2023). Joint evolution of traits for social learning *Behavioral Ecology and Sociobiology*, 77, 47.

Mann, S. F. and Pain, R. (2022) OPEN ACCESS
Teleosemantics and the free energy principle
Biology & Philosophy, 37, 34.

Mann, S. F., Pain, R., and Kirchhoff, M. (2022) OPEN ACCESS
Free energy: a user's guide. Introduction to the Topical Collection 'The Free Energy Principle: From Biology to Cognition'
Biology & Philosophy, 37, 33.

Mann, S. F. and Pain, R. (2022) OPEN ACCESS
Teleosemantics and the hard problem of content
Philosophical Psychology, 35(1), 22-46.

Roberts, S., ... **Mann, S. F.**, ... (2020)
CHIELD: The Causal Hypotheses in Evolutionary Linguistics Database
Journal of Language Evolution 5(2), 101-120.

Mann, S. F. (2020)
Consequences of a functional account of information
Review of Philosophy and Psychology 11(3), 669-687.

Mann S. F. (2018)
Attribution of information in animal interaction
Biological Theory 13(3), 164-179.

BOOK REVIEWS

Mann S. F. and Pfeifer, J. (2018). Review of *Studying Animal Languages Without Translation: An Insight from Ants* by Zhanna Reznikova.
Quarterly Review of Biology, 93(1), 38.

CONFERENCE PROCEEDINGS

Round, E. R., **Mann S. F.**, Beniamine, S., Lindsay-Smith, E., Esher, L., & Spike, M. (2022). Cognition and the stability of evolving complex morphology: An agent-based model.
Proceedings of the Joint Conference on Language Evolution (JCoLE), 635-642.

OTHER WRITING

Mann, S. F. and Gregory, D. (forthcoming) OPEN ACCESS
Might text-davinci-003 have inner speech? *Think*.

Mann, S. F. (2023) Major Transitions: A Record of Reorganization of Individuality in the Colonial Organisms of Earth.
Life Beyond Us, ed. Julie Nováková, Lucas K. Law, and Susan Forest. European Astrobiology Institute.

Mann, S. F., Pain, R., and Kirchhoff, M. (2022) OPEN ACCESS
'Life hates surprises': can an ambitious theory unify biology, neuroscience and psychology? *The Conversation*.

TEACHING

- MARCH 2020 - APRIL 2020
Philosophy of Cognitive Science (3rd year)
Guest Lecturer (ANU)
- JULY 2019 - JAN 2020
The Moral and Political Philosophy of Artificial Intelligence (3rd year)
Co-convenor (ANU)
- JULY 2017 - NOV 2017
Biology, Society and Ethics (3rd year)
Tutor/Guest Lecturer (ANU)
- JULY 2017 - NOV 2017
Philosophy of Biology (2nd year)
Tutor/Guest Lecturer (ANU)
- SEPT 2014 - JAN 2015
Philosophy of Science (2nd year)
Intermediate Logic (2nd year)
Elementary Logic (1st year)
Tutor (KCL)

SERVICES TO THE PROFESSION

Ad hoc reviewing

Philosophy of Science, Biology & Philosophy, Biological Theory, Ergo, Synthese, Theoria, European Journal for Philosophy of Science, Phenomenology and the Cognitive Sciences, AVANT, Philosophies

Guest editing

- 2021 *Biology & Philosophy*
-22 Topical Collection
The Free Energy Principle: From Biology to Cognition
(with Ross Pain and Michael Kirchhoff)

Public outreach

- 2019 *HMI Interviews*
Conducted a series of filmed interviews with members of the Humanising Machine Intelligence project.
Sample: [YouTube playlist](#)
- 2019 *Radio appearance*
MAR Guest on *Talk the Talk* linguistics radio show (Perth, Australia) and podcast (global), speaking on animal communication and human language.

Conference organisation

- 2016 *ANU Philosophy Graduate Conference*
NOV Lead Organiser
Duties included liaising with accommodation and conference facilities management, communicating with attendees, and chairing presentations.
- 2016 *Australasian Postgraduate Philosophy Conference*
SEPT Co-organiser
Duties included communicating with attendees, chairing sessions, and coordinating small social events.

SELECTED PRESENTATIONS

- MAR 2023 **Degrees of proper function**
INVITED *Empirical Philosophy Workshop*
Universität Bielefeld
Bielefeld, Germany
- MAR 2023 **Categorical variables and the strength of selection**
PEER REVIEW *Predicting Evolution: The Price Equation and Its Applications*
Universität Hannover
Hanover, Germany
- SEPT 2022 **The relevance of communication theory for theories of representation**
INVITED *Representation in Cognitive Science*
Universitat de Barcelona
Barcelona, Spain
- NOV 2019 **The mechanics of representation: teleosemantics meets the free energy principle (with Ross Pain)**
PEER REVIEW *Mental Representations in a Mechanical World*
Ruhr-Universität Bochum
Bochum, Germany
- SEPT 2018 **Studying language change with evolutionary methods**
PEER REVIEW *Evolving Minds*
Charles Darwin University
Darwin, Australia
- JUNE 2018 **Communication and selection**
INVITED *Department of Linguistic and Cultural Evolution*
Max Planck Institute for the Science of Human History
Jena, Germany
- FEB 2018 **Unitrackerers in artificial and natural cognition**
PEER REVIEW *Naturally Evolving Minds*
University of Wollongong
Wollongong, Australia
- DEC 2016 **Natural information and naturalistic intentionality**
PEER REVIEW 10th LOGOS workshop
Universitat de Barcelona
Barcelona, Spain

FUNDING

- FEB 2016 **Australian Government Research Training Program (RTP) Scholarship**
- AUG 2019
- FEB 2016 **Australian Research Council Laureate Fellowship Grant FL130100141**
- AUG 2019

PROFESSIONAL EXPERIENCE

SEPT 2010 - MARCH 2013

Weaveability Limited **Developer**

Software Company based near Manchester, UK specialising in SAP eCommerce and Netweaver Solutions. Gained fluency with **Python, GitHub, HTML and JavaScript**, and website deployment with **Hugo** and **Google Cloud** services.