

DR STEPHEN HEAP

Scientific and Medical Communications - December 2021

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EXPERIENCE

Freelance Research Communicator

Dr Stevil PhD

📅 May 2019 - Ongoing 📍 Remote

- Academic Manuscripts
- Statistical Analysis
- Public Relations and Outreach
- English Support

Post-Doctoral Researcher - Stage III

University of Jyväskylä

📅 June 2013 - December 2018 📍 Jyväskylä, Finland

- Research
- Software Development
- Teaching and Supervision
- Event Organization

PROJECTS

Evolution of Conflict and Cooperation in Human Groups

**Academy of Finland/Center of Excellence in Biological Interactions
(University of Jyväskylä)**

📅 2013-2018

- Explore role of multilevel selection in the evolution of human ultrasociality
- Developed novel research software
- Ran massively multiplayer public-goods experiments
- Document the rise and fall of group size according to within-and-between group selection pressures

The Cooperation Problem of Social Learning - Innovation and Cultural Evolution in Competitive Environments

**Academy of Finland/Center of Excellence in Biological Interactions
(University of Jyväskylä)**

📅 2015-2018

- Address the role of multilevel selection in human social learning and cumulative culture
- Developed novel research software
- Ran learning experiments in multiplayer framework
- Document the expression of cooperative learning according to within-and-between group selection pressures

QUICK BIO

I am a freelance writer in the field of scientific and medical communications. My writing has its origins in academia, but now I bridge science with popular culture (for fun) and perform technical writing (for profit). As your lecturer of research communication, I can bring a diverse set of skills, a passion for the communicative arts and a collaborative spirit.

STRENGTHS

- Manuscript Publication
- Editing and Proofreading
- Grant Writing
- Research and Data Analysis
- Presentation and Graphic Design
- Software Design and Development
- Fieldwork and Animal Handling
- Mentorship and Teaching

LANGUAGES

- English** ●●●●●
- Finnish** ●●●●●
- German** ●●●●●

EDUCATION

Ph.D. Behavioural Ecology

University of Melbourne

📅 2012

Thesis title: Sampling the social environment in an uncertain world (nominated for Outstanding Thesis)

B.Sc. (Honours, First Class) Zoology and Earth Science

Monash University

📅 2008

Thesis title: The effect of a pillar on escape panic behavior in Argentine ants (*Linepithema humile*)

WHAT SETS ME APART

My favourite part of research is in the communication. I am inspired by the challenge to describe ideas that have never been conceived, interpret the cold realities of data into story, and to expound on why the mundane is transcendent. This is all to say that research communication is a passionate and poetic affair for me.

This is best exemplified by my choice to sacrifice security and take risks to be a research communicator. Once upon a time, I was a post-doctoral researcher in the Department of Biological and Environmental Sciences at the University of Jyväskylä. But I left my position to take on the life of an entrepreneur in scientific and medical communication. In other words, I care enough about research communication that I created my own job in the field, and I've supported myself on the basis of these talents alone. As a sideline to this profession I've maintained my commitment to academic pedagogy by mentoring students, assisting with dissertations and coaching in the communicative arts.

Although my position at JYU was not a teaching role, I took every chance to supervise students and teach classes. This included taking responsibility for a student experiencing difficulties with their prior mentor. I saw this student through to their PhD graduation despite the doubts and concerns of the entire Department. With my teaching, I went above and beyond what was expected from me, producing workbooks, guides and other attendant learning materials to supplement classes. Despite my lack of formal pedagogical education, I performed my own research into teaching methods and developed a varied style of my own inspired by gamification, the psychology of attention, and 21st century learning objectives.

I may have a formal background in the sciences, but my work is inspired by narrative, myth and fiction – the ancient tools that humans use to communicate on intellectual and emotional levels. These tools are essential for scientific communication more than people realize, and are key to capturing a reader's attention and inspiring them to action. These skills, coupled with my scientific background, allow me to deconstruct complex ideas to their components and structure them in an engaging way.

On the practical side, I'm well versed in the many forms and audiences of academic communication. I've written peer-reviewed articles for perusal by experts, grant proposals to excite funding agencies, and presentations to capture the esteem of my peers.

I am a diligent and self-reliant worker with the power to focus and see projects through to the end. I work on my own initiative, but even so I am highly collaborative and rarely work on a project alone.

PROFESSIONAL SKILLS AND EXPERIENCE

My duties as a professional academic included research and analysis, manuscript publication, grant writing and teaching. I secured funding for projects by writing applications to critical review boards. I was responsible for the design, development and implementation of novel software that we used in experiments. I was also responsible for the recruitment and management of human volunteers. I networked extensively at conferences and established international collaborations with researchers in Australia, USA, Denmark, Germany and the UK. I lectured on a number of topics, and supervised the graduate degrees of two students.

As a freelancer research communicator, I primarily prepare manuscripts for publication. I also perform public relations and outreach for research projects, which includes preparing press releases, writing for blogs and producing videos for YouTube. My clients include research colleagues, medical doctors and an international corporation. I also assist students with their dissertations and university applications.

TESTIMONIALS

Dr. Thomas Pausch

@ Department of General, Visceral and Transplantation Surgery, Heidelberg University Hospital

✉ Thomas.Pausch@med.uni-heidelberg.de

Stephen Heap's medical writing is creative, to the point and impressive at the same time. Manuscript editing by him is structured and thorough. He is an outstanding expert of statistics, and figures made by him are both appealing and clear. He can always bring publication of your projects on a higher level, plus is a precious support while targeting the right journal for you. Collaboration with him is inspiring and easy. And if you work with him you can get the whole package - from scratch to accepted publication. Not seen such a talented medical writer before.

Dr. Bibiana Rojas

@ Global Change Biology, Konrad Lorenz Institute of Ethology, Vienna

✉ bibiana.rojas@vetmeduni.ac.at

My colleagues and I recently got accepted a paper in a high profile scientific journal and were looking for ways in which we could make our findings more accessible to a wider audience. I've known Stephen for over 5 years and know of his great abilities to communicate science at all levels, so I went to him hoping he could write a piece that allowed us to disseminate our study among a lay audience. We could not be happier and more satisfied with the result! Stephen wrote a really clear piece that we used to have a press release, and also went further to write a well-explained and well-illustrated text for his own blog. Both posts were very well received and have been praised by other colleagues and people unrelated to science. Stephen was extremely professional about making sure that we got what we were looking for, and very respectful of deadlines. We got what we wanted on time and with a quality that exceeded our expectations. I could not recommend Stephen enough as a scientific communication scholar!

PUBLICATIONS

Journal Articles

- Heap, S. & Puurtinen, M. (in preparation). Endogenous formation of cooperative groups through between-group competition.
- Heap, S., Puurtinen, M., Cross, C., & Laland, K. (in preparation). Contextual variation in social learning strategies.
- Junikka, J., Heap, S., Loehr, J., & Rusch, H. (in preparation). Intergroup conflict: a battlefield of prosocial males in the chase for private goods.
- Junikka, J., Helle, S., Loehr, J., & Heap, S. (in preparation). Harsh parenting may increase performance in intergroup conflicts by intensifying male bellicosity and prosociality.
- Brand, C., Heap, S., Morgan, T., & Mesoudi, A. (2020). The emergence and adaptive use of prestige in an online social learning task. *Scientific Reports*, 10, 1–11.
- Barker, J., Power, E., Heap, S., Puurtinen, M., & Sosis, R. (2019). Content, cost and context: a framework for understanding human signaling systems. *Evolutionary Anthropology*, 28, 86–99.
- Potvin, D., Burdfield-Steel, E., Potvin, J., & Heap, S. (2018). Diversity begets diversity: a global perspective on gender equality in scientific society leadership. *PLoS One*, 13, e0197280.
- Heap, S., Stuart-Fox, D., & Byrne, P. (2015). Reduction in site fidelity with smaller spatial scale may suggest scale-dependent information use. *Behavioural Ecology*, 26, 543–549.
- Mesterton-Gibbons, M. & Heap, S. (2014). Variation between self and mutual assessment in animal contests. *The American Naturalist*, 183, 199–213.
- Puurtinen, M., Heap, S., & Mappes, T. (2014). The joint emergence of group competition and within-group cooperation. *Evolution and Human Behavior*, 36, 211–217.
- Heap, S. & Byrne, P. (2013). Aggregation and dispersal based on social cues as a nest-site selection strategy in a resource-defence polygynandry mating system. *Behavioral Ecology and Sociobiology*, 67, 685–697.
- Heap, S., Byrne, P., & Stuart-Fox, D. (2012). The adoption of landmarks for territorial boundaries. *Animal Behaviour*, 83, 871–878.
- Heap, S., Stuart-Fox, D., & Byrne, P. (2011). Variation in the effect of repeated intrusions on calling behavior in a territorial toadlet. *Behavioral Ecology*, 23, 93–100.

Professional Medical Writing

- Pausch, T. M., Mitzscherling, C., Aubert, O., Liu, X., Gesslein, B., Bruckner, T., ... Hackert, T. (2021). Applying an intraoperative predictive indicator for postoperative pancreatic fistula: randomized preclinical trial. *British Journal of Surgery*, 108(3), 235–238.
- Pausch, T., Aue, E., Valls, A., Shen, Y., Radhakrishnan, P., Hackert, T., ... Schmidt, T. (2020). Metastasis-associated fibroblasts promote angiogenesis in metastasized pancreatic cancer via the cxcl8 and ccl2 axes. *Scientific Reports*, 10, 1–12.
- Pausch, T., Mitzscherling, C., Abbasi, S., Cui, J., Liu, X., Aubert, O., ... Hackert, T. (2020). Smartpan: a novel polysaccharide microsphere-based surgical indicator of pancreatic leakage. *Journal of Biomaterials Applications*, 35, 123–134.

SUPERVISION

Dr. Jaakko Junikka

Evolution of conflict and cooperation in human groups

 2014-2018

 University of Jyväskylä

M.Sc Iida Heikkilä

Evolution of human cooperation and the study of it using economic games

 2015

 University of Jyväskylä

TEACHING

Strategic Thinking

 2014, 2016


 University of Jyväskylä

Strategic Ecology

 2014, 2016

 University of Jyväskylä

Community Ecology

 2015 - 2016

 University of Jyväskylä

Ethics in Science

 2016 - 2017

 University of Jyväskylä

Scientific Writing in English

 2015, 2017

 University of Jyväskylä

Experimental Animal Behaviour

 2011 - 2013

 University of Melbourne

News and Views

 2013

 University of Melbourne

Ecology

 2012

 University of Melbourne

For Public Audience

- Heap, S. (2020). The grief that does not speak. *Semi-colon*. Retrieved from <https://www.semi-colon.com/articles/grief-does-not-speak>
- Heap, S. (2019). Io hot-take: life and death in the mumblecore apocalypse. *Personal Blog*. Retrieved from <https://www.drstevilphd.com/blog/2019/2/5/io-hot-take-life-and-death-in-the-mumblecore-apocalypse>
- Heap, S. (2019). Resistance is not futile: the truth behind hive-minds. *Medium*. Retrieved from <https://medium.com/@dr.stevil.phd/resistance-is-not-futile-395a580ff3e5>
- Heap, S. (2019). Sanitation on the digital frontier. *Medium*. Retrieved from <https://medium.com/@dr.stevil.phd/sanitation-on-the-digital-frontier-6a4e1b4ea268>
- Heap, S. (2019). Society of the spectacle in one page. *Personal Blog*. Retrieved from <https://www.drstevilphd.com/blog/2019/2/8/society-of-the-spectacle-in-one-page>
- Heap, S. (2019). The origin of feeling. *Medium*. Retrieved from <https://medium.com/@dr.stevil.phd/the-origin-of-feeling-e1e01c480ad5>
- Heap, S. (2019). There are degenerates in the gene pool. *Rapid Ecology*. Retrieved from <https://rapidecology.com/2019/10/02/there-are-degenerates-in-the-gene-pool/>
- Heap, S. (2019). You are living in a simulation. *Medium*. Retrieved from <https://medium.com/@dr.stevil.phd/you-are-living-in-a-simulation-3fbdc58f3423>
- Heap, S. (2013). The story of the forest. *Nature Watching in Europe*, 2. Retrieved from <http://naturewatcher.squarespace.com/nature-watching-in-europe/>

Press Releases and Public Relations

- Heap, S. (2021). Insect research uncovers new insights and solutions to global concerns over antibiotics. Retrieved from <https://www.jyu.fi/en/current/archive/2021/10/insect-research-uncovers-new-insights-and-solutions-to-global-concerns-over-antibiotics>
- Heap, S. (2021). Wild birds learn to avoid distasteful prey by watching others. Retrieved from <https://www.helsinki.fi/en/news/evolution/wild-birds-learn-avoid-distasteful-prey-watching-others>
- Heap, S. (2020). Prestige: simple maybe, but not easy. Retrieved from <https://socialsciences.nature.com/posts/prestige-simple-maybe-but-not-easy>
- Heap, S. & Heikkinen, T. (2020). The european viper uses cloak-and-dazzle to escape predators. Retrieved from <https://www.jyu.fi/en/current/archive/2020/05/the-european-viper-uses-cloak-and-dazzle-to-escape-predators>
- Heap, S. & Heikkinen, T. (2019). Toxic frogs with weak defences persist in the gene pool alongside stronger competitors. Retrieved from <https://www.jyu.fi/en/current/archive/2019/09/toxic-frogs-with-weak-defenses-persist-in-the-gene-pool-alongside-stronger-competitors>

Edited Volumes

- Heap, S. & Smolla, M. (Eds.). (2016). *Cultured Scene: 1*. Early-Career Social Learning Researchers Society.
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Periodicals and Book Chapters

- Heap, S. (2019). Competition for resources desired by females. In T. K. Shackelford & V. A. Weekes-Shackelford (Eds.), *Encyclopedia of evolutionary psychological science* (pp. 1–4). Cham: Springer International Publishing. doi:10.1007/978-3-319-16999-6_1981-1
- Heap, S. (2016). Cracked on culture. In *Cultured scene* (Vol. 1).
- Heap, S. (2016). Learning to climb on the fitness landscape. In *Cultured scene* (Vol. 1).

Grant Applications

- Heap, S. (2019). *Start-up business grant*. Centre for Economic Development, Transport and the Environment: Finland.
 - Heap, S. & Puurtinen, M. (2016). *Social Structure, Learning and the Evolution of Cumulative Culture*. Jenni and Antti Wihuri Foundation.
 - Puurtinen, M. & Heap, S. (2016). *Exploring the Evolutionary Roots of Cultural Complexity, Creativity and Trust*. Templeton Foundation.
 - Puurtinen, M. & Heap, S. (2016). *The Cooperative Problem of Social Learning*. European Research Council.
 - Heap, S. (2015). *Mobility Grant for Researchers*. University of Jyväskylä.
 - Heap, S. (2011). *Drummond Award*. University of Melbourne.
 - Heap, S. (2011). *John and Betty McCreery Travelling Scholarship*. University of Melbourne.
 - Heap, S. (2011). *Melbourne Abroad Travelling Scholarship*. University of Melbourne.
 - Heap, S. (2010). *Joyce W. Vickery Scientific Research Fund*. Linnaean Society of NSW.
 - Heap, S. (2008). *Australian Postgraduate Award*. Commonwealth Government of Australia.
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● Videos and Multimedia

- Heap, S. (2019). Frogs with fancy pants move to a dynamic world - you can too. Retrieved from <https://youtu.be/psaPfsZQnxo>
 - Breaking Bio Episode 39. (2013). Retrieved from <https://youtu.be/K-1pyOwMSOc>
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● Software Development

- Kinnunen, M., Pekkala, A., & Heap, S. (licence pending). *Social transmission game*.
- Kinnunen, M., Pekkala, A., Kyslytsyn, O., & Heap, S. (licence pending). *Endogenous group formation game*.

Conference Presentations

- Heap, S., Puurtinen, M., Cross, C., & Laland, K. (2021). Motivated control of social learning strategies: an exploration into opening the black box. In *Early Career Social Learning Researchers Workshop, Online/Konstanz, Austria*.
- Heap, S. & Puurtinen, M. (2017). Innovative tool exploring innovation. In *Culture Conference Birmingham, UK*.
- Heap, S. & Puurtinen, M. (2017). Personality and plasticity in social learning. In *Invited talk, Institute for Interacting Minds, Aarhus, Denmark*.
- Heap, S. & Puurtinen, M. (2016). How to bake a cooperative social system. In *International Society for Behavioural Ecology. Exeter, UK.*
- Heap, S. & Puurtinen, M. (2015). Cooperative learning across social structures. In *Center of Excellence in Biological Interactions. Tvarminne, Finland*.
- Heap, S. & Puurtinen, M. (2015). The secret ingredient for cooking a cooperative social system is a pinch of conflict! In *European Society of Evolutionary Biology. Lausanne, Switzerland*.
- Heap, S. & Byrne, P. (2014). Clutch-division polyandry homogenizes breeding success rather than driving competition for certain positions. In *Evolution of Mating Systems Workshop. Konnevesi, Finland*.
- Heap, S. & Puurtinen, M. (2014). There are two kinds of people... In *International Society for Behavioural Ecology. New York, USA*.
- Heap, S. & Puurtinen, M. (2014). There are two kinds of people... In *Decision Making. Bristol, UK*.
- Heap, S. & Puurtinen, M. (2014). There are two kinds of people... In *Nordic Evolutionary Psychology Meeting. Lammi, Finland*.
- Heap, S. (2013). Invited talk: cooperation and conflict across multiple levels. In *Florida State University. Tallahassee, USA*.
- Heap, S. (2012). Invited talk: sampling the social environment in an uncertain world. In *University of Jyväskylä. Jyväskylä, Finland*.
- Heap, S., Byrne, P., & Stuart-Fox, D. (2012). Spatial scale determines cues for nest site selection in a terrestrial toadlet. In *Australasian Society of Animal Behaviour. Geelong, Australia*.
- Heap, S. & Mesterton-Gibbons, M. (2012). Variation between self and mutual assessment in animal contests can be explained by errors in withdrawal strategy. In *International Society for Behavioural Ecology. Lund, Sweden*.
- Heap, S. & Mesterton-Gibbons, M. (2011). Variation between self and mutual assessment in animal contests can be explained by errors in withdrawal strategy. In *Joint Meeting of the International Ethology Conference and Animal Behavior Society, Bloomington, USA*.
- Heap, S., Stuart-Fox, D., & Byrne, P. (2010). Contest factors influencing nest-site defence in the frog pseudophryne bibronii. In *Australian Society of Herpetologists. Barmera, Australia*.
- Heap, S., Stuart-Fox, D., & Byrne, P. (2010). Contest factors influencing nest-site defence in the frog pseudophryne bibronii. In *International Society for Behavioural Ecology. Perth, Australia*.

Hosted Workshops

- Heap, S. & Waldron, S. (2014). Field photography workshop. Center of Excellence in Biological Interactions, University of Jyväskylä. Konnevesi, Finland.

OTHER ATTENDANCE

ACM Collective Intelligence

 2020

 Virtual

Culture Conference

 2016

 Birmingham, UK

Costs and benefits of information acquisition and use in social interactions

 2015

 Arolla, Switzerland

Social Insect Behaviour Workshop

I designed the website and registration system

 2015

 Lisbon, Portugal

Centre of Excellence in Biological Interactions

 2014

 Tvärminne, Finland

Social Network Behaviour Analysis

 2014

 Jyväskylä Summer School

Human Behaviour and Evolution Society

 2013

 Miami, USA

Centre of Excellence in Biological Interactions

 2013

 Lammi, Finland

Australasian Evolution Society

 2009

 Canberra, Australia


Global Research Ethics and Integrity Module

 2009

 University of Melbourne

Animal Ethics Workshop

 2009

 University of Melbourne