

Tessa Verhoef

HOME

Julianaplein 23 C
1097 DN Amsterdam

OFFICE

Niels Bohrweg 1
2333 CA Leiden

+31 6 51359406
t.verhoef@liacs.leidenuniv.nl
<http://crl.ucsd.edu/~tverhoef/>

Summary

Passionate, curiosity-driven researcher and caring educator, working at the intersection of language, cognition, cultural evolution and computation. Assistant professor and co-founder of the Creative Intelligence Lab at Leiden University. Active in the fields of Language Evolution and Cognitive Science, specializing in laboratory experiments and computational methods, with a particular interest in the emergence of structure in human behavior. Broad interdisciplinary background with a BSc and MSc in Artificial Intelligence, a PhD in Language Evolution and international experience. Awarded with prestigious postdoctoral fellowships, prizes and grants. Active in science outreach and science exhibitions.

Employment

ASSISTANT PROFESSOR 'COMPUTATION X CREATIVITY'. LEIDEN UNIVERSITY. — JULY 2017 - NOW

Research at the Leiden Institute of Advanced Computer Science (LIACS), supervision and teaching in the Media Technology master and Computer Science master; Media Technology board member; organising events for the Leiden Institute for Brain and Cognition (LIBC) AI hotspot as well as SAILS, the Leiden University wide research program on AI.

— CO-DIRECTOR OF THE CREATIVE INTELLIGENCE LAB (CIL):

An interdisciplinary place connecting researchers with different backgrounds across the cognitive and computer sciences, who use methods from various fields including AI, linguistics, the arts and psychology. The CIL recognises playfulness and creativity as key factors in scientific innovation and encourages alternative research output besides academic papers, such as physical installations, exhibitions, and public events.

POSTDOC. MAX PLANCK INSTITUTE FOR PSYCHOLINGUISTICS, NIJMEGEN. — FEB 2017 - JULY 2017

Postdoctoral research position as NWO (Dutch Science Foundation) VENI grant laureate. Conducting independent research.

POSTDOC. UNIVERSITY OF CALIFORNIA, SAN DIEGO. — DEC 2013 - FEB 2017

Postdoctoral research position as NWO (Dutch Science Foundation) Rubicon grant laureate and Frontiers of Innovation postdoc fellow. Conducting independent research and forming inter-disciplinary and cross-departmental collaborations.

ASSISTANT ACADEMIC STAFF. FREE UNIVERSITY OF BRUSSELS. — MAY 2013 - AUGUST 2013

Temporary research position. Writing articles, developing ideas for future experiments and supervising PhD students.

STAFF RESEARCH ASSOCIATE. UNIVERSITY OF CALIFORNIA, SAN DIEGO. — FEB 2013 - MAR 2013

Temporary research position. Writing grants and developing ideas for future experiments, computer simulations and analysis techniques.

PH.D. CANDIDATE. UNIVERSITY OF AMSTERDAM. — 2009-2012

Working towards a Ph.D. degree, employed as part of the research staff within the Amsterdam Center for Language and Communication. Conducted research, assisted in teaching, served on NAP-dag organising committee and PhD search committee.

RESEARCH ASSISTANT IN LINGUISTICS. UNIVERSITY OF GRONINGEN. — OCT 2007 - JAN 2008

Design, implementation and testing for a self-paced reading experiment with human test subjects.

STUDENT ASSISTANT. UNIVERSITY OF GRONINGEN. — DEC 2005 - FEB 2006

Creating e-learning material about language evolution, language processing and language acquisition for prospective students.

STUDENT ASSISTANT. UNIVERSITY OF GRONINGEN. — NOV 2005 - MAY 2006

Member of the AI Promo team. Served as consultant for prospective students of the AI program at the University of Groningen.

Education

UNIVERSITY OF AMSTERDAM. PH.D. — 2009 - 2013

Ph.D. at the Amsterdam Center for Language and Communication, under the supervision of Professor Bart de Boer and Professor Simon Kirby from the Language Evolution and Computation research unit of the University of Edinburgh.

— VISITING GRAD STUDENT:

Affiliation with the Center for Research in Language at the University of California, San Diego as a visiting scholar. I visited June-Oct 2010, Jan/Feb 2011 and Nov/Dec 2011 to work with Prof. Carol Padden, developing synergies between field work and computational methods.

— POST M.SC. EDUCATION:

Courses on American Sign Language (ASL), popular writing, academic communication, career planning, thesis coaching, research ethics and human subject protection. Summer Schools on Agent-based Models of Creativity (2013) and Embodied Language Games and Construction Grammar (2009).

UNIVERSITY OF GRONINGEN. M.SC. IN ARTIFICIAL INTELLIGENCE. — 2006 - 2008

Graduated Cum Laude. M.Sc. thesis research conducted at the Florida International University in Miami on Affective Computing.

UNIVERSITY OF GRONINGEN. B.SC. IN ARTIFICIAL INTELLIGENCE. — 2003 - 2007

Graduated With Honors. B.Sc. thesis research conducted on an agent based simulation of co-evolution and speciation.

Grants and Awards

GLOBAL TRANSFORMATION AND GOVERNANCE CHALLENGES SEED GRANT - 2021: to start the "Gendering Algorithms" initiative [€10,000].

VENI GRANT. - 2016: "Time, space and tools in language: how the emergence of meaning and structure unfolds over time" From the Netherlands Organization for Scientific Research for 3 years of postdoc research [€250,000].

FISP POSTDOCTORAL FELLOWSHIP. - 2016: "Modeling the cultural evolution of patterned human behavior" Frontiers of Innovation Scholars Program at University of California, San Diego [\$25,000].

RUBICON GRANT. - 2013: "The origins of combinatorial structure in language: cultural evolution, efficient coding and the brain" From the Netherlands Organization for Scientific Research for a 2 year postdoc abroad [€127,690].

HURFORD PRIZE. - 2012: Prize for the best student oral presentation at the 9th EvoLang [£250].

PUBLICATION BONUS. - 2012: Financial bonus awarded for research output, Amsterdam Center for Language and Communication [€500].

ONDERZOEKSKREDIET ACLC. - 2012: Financial support to hire a student assistant for Science Live museum project [€980].

EVOLANG STUDENT TRAVEL SUPPORT. - 2012: Support for travel to the 9th EvoLang in Kyoto [¥60,000].

COGSCI STUDENT TRAVEL AWARD. - 2011: Sponsored by the Robert J. Glushko and Pamela Samuelson [\$800].

BEST POSTER AWARD. - 2009: International Summer School on Embodied Language Games and Construction Grammar.

UNIVERSITY OF GRONINGEN GRANT FOR EXCELLENT STUDENTS. - 2008: Financial support for M.Sc. thesis research in the US [€1000].

MARCO POLO FUND. - 2008: Financial support provided by the University of Groningen for research abroad [€500].

Committee work and other initiatives

PROGRAM COMMITTEE COGSCI 2022

Meta-reviewer for the CogSci 2022 annual meeting.

PHD DEFENCE COMMITTEES 2018-NOW

Participated in PhD defence committees at various universities: Radboud University, Leiden University, Max Planck Institute for Psycholinguistics, Free University Brussels

LIBC AI HOTSPOT INITIATOR. — 2019 - NOW

Organising AI themed events for the Leiden Institute for Brain and Cognition (LIBC).

SAILS COMMITTEE MEMBER. — 2019 - NOW

Organising events and meetings for SAILS, the Leiden University wide research program on AI.

MEMBER OF EDITORIAL BOARD EVOLANG CONFERENCE. — 2015 - NOW

Assisted in sending out call for papers, recruiting reviewers, assigning abstracts to reviewers, and making decisions about acceptance for the bi-annual international Evolution of Language conference.

LOWLANDS WHISPERS 2019

Conducting experiments as part of the Lowlands Science program at the Lowlands festival. Science outreach activity combined with real data collection at a popular music festival in the Netherlands.

MAKE-X ROBOT EVENT 2019

Co-hosting a robot competition event at LIACS for high school students from all over the Netherlands.

MEMBER OF 'BRAINSCRATCH'. — 2017 - 2019

A collective of thinkers, makers, artists and communicators who have a passion for making science accessible to the bigger public through artistic and deeply immersive experiences. We focus on fun and engaging installations, demonstrations, and presentations that demonstrate interconnectedness and complexity in nature.

- Robot Build and Robot Races at Bunkhouse, Dirty Bird Campout West (Bradley, CA, Oct 2018)
- PenguinBird BCI dancing robot demo at the IBM Artificial Intelligence for Healthy Living Center (AIHL) SmartHome Demonstration (UCSD, April 2018)
- Science Lab at Dirty Bird Campout: science symposium, installations, robot races and more. (Bradley, CA, Oct 2017)

TAAL IN DE REAGEERBUIS ('LANGUAGE IN THE TEST TUBE'). — 2013 - 2015

Museum experiment/exhibit, appeared at the annual 'Discovery festival' in Amsterdam (2013), the Science Museum Utrecht (2013) and the Nacht van Kunst en Kennis (night of art and knowledge) in Leiden (2014). Collecting real data with event visitors as participants, combined with lectures and science communication, with Mark Dingemanse and Sean Roberts (Max Planck Institute).

PINT OF SCIENCE. — 2014 - 2015

Organizing committee for Pint of Science festival in the US, San Diego. This festival is part of an international organization that aims to celebrate and promote community interest in science through palatable talks in local pubs.

VOLUNTEER AND POSTER PRIZE JUDGE ISGS. — 2014

Volunteer and student poster prize judge at the 6th Conference of the International Society for Gesture Studies (ISGS).

WORKSHOP ON THE EVOLUTION OF SIGNALS, SPEECH AND SIGNS. — 2014

Co-organization (with Bart de Boer) of a workshop on the evolution of signals, speech and signs as part of the 10th international conference on the Evolution of Language (EvolangX) in Vienna.

WORKSHOP ON CULTURAL EVOLUTION AND THE EMERGENCE OF LINGUISTIC STRUCTURE. — SEPT 2013

Organization of a workshop with international speakers on the occasion of my PhD defense at the University of Amsterdam.

DISCUSSANT AT WORKSHOP ON EMERGING LANGUAGES. — JUN 2013

Discussant at the Minerva-Gentner symposium on Emerging Languages at the Max Planck Institute for Psycholinguistics, Nijmegen.

SCIENCE LIVE PROJECT IN SCIENCE CENTER 'NEMO'. — 2012

Conducting experiments in Science Center Nemo with museum visitors as participants. Communicating with a broad audience about my research and providing background information. Over 400 visitors enthusiastically participated.

AUTONOMOUS BLIMP PROJECT. — MAY 2007 – APR 2008

Extracurricular research project to explore the possibilities of an autonomous robotic blimp. The aim was to build a flying robot that could navigate and communicate on its own. The project was financially supported by the University of Groningen and the result was rewarded with 10 EC and used for various promotion events of the University.

EDITOR IN CHIEF 'DE CONNECTIE'. — 2007

Editor in chief of the national AI magazine 'De Connectie'. Responsible for publishing four editions of this Dutch magazine in 2007.

EDITOR 'DE CONNECTIE'. — 2005 – 2006

Editor of the national AI magazine 'De Connectie', representing the AI department of the University of Groningen.

Teaching

SOCIAL TECHNOLOGIES - MSC COURSE IN MEDIA TECHNOLOGY PROGRAM, LEIDEN UNIVERSITY 2021

Course on how human bodies and minds have co-evolved with all kinds of technologies and socio-cultural structures. How can particular human "inventions" such as fire, tools, language, art, story-telling, dance, rituals, and ultimately the products of the agricultural, industrial, and digital revolutions, be viewed as social technologies extending our cognitive and communicative abilities? (with Max van Duijn)

NON-HUMAN COGNITION - MSC COURSE IN MEDIA TECHNOLOGY PROGRAM, LEIDEN UNIVERSITY 2018, 2019, 2020, 2021

An interdisciplinary look at human cognition by studying the minds of non-human animals as well as machines. To what extent can we find parallels for complex cognition in other species and can such complex behaviors be operationalized and implemented computationally? What do these findings say about us?

LANGUAGE EVOLUTION - MSC COURSE IN MEDIA TECHNOLOGY PROGRAM, LEIDEN UNIVERSITY 2017, 2018, 2019, 2020

A journey through the field of language evolution. Discussion of widely varying theories, hands on practice with available methods and interpretation of results from computer simulations, field work data on emerging sign languages, laboratory experiments and comparisons with other culturally transmitted systems like music.

EVOLUTION OF SPEECH - MA COURSE IN LINGUISTICS, UNIVERSITY OF AMSTERDAM 2011

An overview of findings and methods in the area of speech evolution (with Bart de Boer)

GUEST LECTURES

Guest in College Tour; Bachelor program Cognition, Language, and Communication, University of Amsterdam (Winter 2019, 2020, 2021)

Guest module on Language Evolution in minor Human Evolution, Leiden University (Winter 2018, 2019, 2020)

Guest lecture on Cultural Evolution in Languages, Stories and Songbirds course at Humanities Lab, Leiden University (Spring 2018, 2019, 2020)

Guest talk on building a Robotic Blimp in COGS8: Hands-On Computing, UCSD (Fall 2014, Spring 2015)

At various events teaching high school students about AI and related topics (2005-2006)

COURSE DESIGN FOR M.SC. COURSE ON PERCEPTION & ATTENTION. — AUG 2007 – MAR 2008

Broad literature study combined with the design and planning of a course about Perception and Attention which became part of the curriculum of the M.Sc. Artificial Intelligence at the University of Groningen.

Supervision

PHD STUDENTS

Ross Towns - 3rd year; project on cultural transmission in gestural systems and computational models of self-domestication.

Yuchen Lian - 2nd year; project on neural agent simulations of the emergence of word-order and case-marking strategies.

Tom Kouwenhoven - 1st year; project on socially embedded AI, emerging signals and cooperation.

STUDENT ASSISTANTS

2010-2012: Supervised 2 student assistants who helped with conducting experiments at UvA and Nemo Science Live

2013-2016: Mentored 9 student assistants and taught them about programming, designing, running and analyzing experiments at UCSD

2018-2021: Supervised 5 teaching assistants for courses in the Media Technology program and 2 research assistants in the Gendering Algorithms project at Leiden University

THESIS/PROJECT SUPERVISION

I MSc Brain and Cognitive Sciences thesis at University of Amsterdam (2012)

"Cultural Emergence of Synesthesia-like Mappings in Artificial Whistled Languages"

I MA Linguistics thesis at University of Amsterdam (2012)

"Experimental evidence of the emergence of the universals of tone through iterated learning" (with Bart de Boer)

- 1 MSc Cognitive Artificial Intelligence thesis at Utrecht University (2012)
"The Emergence of Phonological Compositionality" (with Bart de Boer)
- 2 MSc Media Technology theses at Leiden University (2017, with Maarten Lamers)
"Colored Reading: an Appeal for Using Synesthetic Association Training to Improve Reading Fluency in Children with Dyslexia"
"Adapting a virtual robot's gestures by means of an Interactive Evolutionary Algorithm"
- 6 MSc Media Technology theses at Leiden University (2018-2019)
"Calming pressure: stress reduction by deep pressure touch contractions through wearable technology"
"First Person vs. Third Person perspective in a digital Memory Palace"
"Music for Seals: Possible enrichment for temporarily captive grey seals"
"Gender and Style Effects in Voice Assistants"
"GAN Album Art: An Exploration of Generative Adversarial Networks as a Design Tool"
"Kind words: How prosociality shapes cross-modal language"
- 1 MSc Industrial Design thesis at TU Eindhoven (2019-2020)
"Mutual Understanding for Human-Machine Collaboration"
- 4 MSc Media Technology theses at Leiden University (2019-2020)
"Better Distractions: Transformer-based Distractor Generation and Multiple Choice Question Filtering"
"Animaltainment: a journey through animal images for aspiring nature storytellers"
"Love in Polish and Dutch: A Cultural-Linguistic Perspective"
"Masked Selection and the Social Brain Hypothesis, a Recipe for Language Evolution"
- 2 MSc Computer Science theses at Leiden University (2020-2021)
"Integration of BERT and WordNet for improving Natural Language Understanding" (with Suzan Verberne)
"Multi-Agent Cooperation and Information Exchange in Partially Observable Games" (with Mike Preuss)
- 3 MSc Media Technology theses at Leiden University (2020-2021)
"Using Agent Based Models to simulate and study the effects of scribal errors in classical text transmission"
"Embodiment in Video Games and its Effect on Player Behaviour: A Pilot Study"
"The Flying Rabbit: Using a drone as a pace-setter for youth middle-distance runners"
- 1 MSc Computer Science theses at Leiden University (2021-2022) (ongoing)
"Adaptive AI agents for Human-AI Coordination"
- 3 MSc Media Technology theses at Leiden University (2021-2022) (ongoing)
"Designing digital text to support reading comprehension in the classroom"
"Machinic Accents: effects of robot speech on human language accommodation"
"The influence of social interaction in human and avian vocal and language learning"
- 4 groups supervised in the course "Exhibition: Science to Experience", Leiden University (2018-2021)
- 1 group supervised in the course "Software Engineering". Project on measuring gesture with Kinect, Leiden University (2020-2021)
- 2 high school students in the PRE University program. "Ontogenetic Ritualisation in human-machine interactions" (2020-2021)

Publications

- Lian, Y., Bisazza, A., & Verhoef, T. (2021). The Effect of Efficient Messaging and Input Variability on Neural-Agent Iterated Language Learning. In *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing* (pp. 10121–10129). Association for Computational Linguistics.
- Verhoef, T., & Ravnani, A. (2021) Melodic universals emerge or are sustained through cultural evolution. *Frontiers in Psychology*, 12, 668300
- Hofer, M., Verhoef, T. & Levy, R. (2020) Hierarchical Inferences Support Systematicity in the Lexicon. In S. Denison., M. Mack, Y. Xu, & B.C. Armstrong (Eds.), *Proceedings of the 42nd Annual Conference of the Cognitive Science Society* (pp. 2398-2403). Cognitive Science Society.
- Verhoef, T. & Lepic, R. (2020). Gestural Origins of Verb and Noun Encoding in Sign Language Emergence. In Ravnani, A., Barbieri, C., Martins, M., Flaherty, M., Jadoul, Y., Lattenkamp, E., Little, H., Mudd, K. & Verhoef, T. (Eds.): *The Evolution of Language: Proceedings of the 13th International Conference (EvoLang 13)*. doi:10.17617/2.3190925.
- Towns, R., Gómez-Maureira, M. A., Sommer, K., van Duijn, M. & Verhoef, T. (2020). The Evolution of Spatial Devices in Gestural Storytelling. In Ravnani, A., Barbieri, C., Martins, M., Flaherty, M., Jadoul, Y., Lattenkamp, E., Little, H., Mudd, K. & Verhoef, T. (Eds.): *The Evolution of Language: Proceedings of the 13th International Conference (EvoLang 13)*. <https://doi.org/10.17617/2.3190925>.
- Bragg, D., Koller, O., Bellard, M., Berke, L., Boudreault, P., Braffort, A., Caselli, N., Huenerfauth, M., Kacorri, H., Verhoef, T., Vogler, C. and Morris, M. (2019) Sign Language Recognition, Generation, and Translation: An Interdisciplinary Perspective. In *Proceedings of the 21st International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*. (pp. 16-31) Pittsburgh, PA, USA **[Best Paper Award]**
- Cuskley, C., Roberts, S. G., Politzer-Ahles, S., & Verhoef, T. (2019). Double-blind reviewing and gender biases at EvoLang conferences: An update. *Journal of Language Evolution*, 5(1), 92–99
- Sommer, K., Perris, J., Bisazza, A. & Verhoef, T. (2019). Compositionality in emerging multi-agent languages: Marrying Language Evolution and Natural Language Processing [Abstract]. In A.K. Goel, C.M. Seifert, & C. Freksa (Eds.) *Proceedings of the 41st Annual Conference of the Cognitive Science Society* (p. 3577). Montreal, QB: Cognitive Science Society.

- Leonardis, E., D'Amico, A., Guerin, S., Verhoef, T., & de Sa, V. (2018). PenguinBird OpenBCI DIY Educational Platform (demo). The Equity Journey: Investing in the Whole Learner. Grantmakers For Education Conference 2018. Coronado, CA
- Verhoef, T., Walker, E., Marghetis, T. & Coulson, S. (2018) Neural measures of sensitivity to a culturally evolved space-time language: shared biases and conventionalization. In: *Proceedings of the 40th Annual Conference of the Cognitive Science Society*. (pp. 1151-1156) Austin, TX: Cognitive Science Society.
- Verhoef, T., Walker, E. & Marghetis, T. (2018). Cognitive biases and cultural evolution in the emergence of space-time mappings in language. In Cuskley, C., Flaherty, M., Little, H., McCrohon, L., Ravnani, A. & Verhoef, T. (Eds.): *The Evolution of Language: Proceedings of the 12th International Conference (EVLANGXII)*.
- Delgado, T., Ravnani, A., Verhoef, T., Thompson, B., Grossi, T. & Kirby, S. (2018). Cultural transmission of melodic and rhythmic universals: four experiments and a model. In Cuskley, C., Flaherty, M., Little, H., McCrohon, L., Ravnani, A. & Verhoef, T. (Eds.): *The Evolution of Language: Proceedings of the 12th International Conference (EVLANGXII)*.
- de Boer, B. & Verhoef, T. (2018). Evolution of Speech. In *The Oxford Handbook of Psycholinguistics* (pp. 841-864). Oxford University press.
- Ravnani, A. & Verhoef, T. (2018) Which melodic universals emerge from repeated signaling games. *Artificial Life*, 24(2), 149-153
- Roberts, S. G., & Verhoef, T. (2016) Double-blind reviewing at EvoLang 11 reveals gender bias. *Journal of Language Evolution*, 1(2), 163-167.
- NambooDiripad, S., Lenzen, D., Lepic, R. & Verhoef, T. (2016). Measuring conventionalization in the manual modality. *The Journal of Language Evolution* 1(2), 109-118.
- Verhoef, T., Walker, E. & Marghetis, T. (2016) Cognitive biases and social coordination in the emergence of temporal language. In Papafragou, A., Grodner, D., Mirman, D., & Trueswell, J.C. (Eds.) *Proceedings of the 38th Annual Conference of the Cognitive Science Society*. (pp. 2615-2620) Austin, TX: Cognitive Science Society.
- Verhoef, T., Padden, C. and Kirby, S. (2016). Iconicity, Naturalness And Systematicity In The Emergence Of Sign Language Structure. In S.G. Roberts, C. Cuskley, L. McCrohon, L. Barceló-Coblijn, O. Fehér & T. Verhoef (eds.) *The Evolution of Language: Proceedings of the 11th International Conference (EVLANG I I)*. Available online: <http://evolang.org/neworleans/papers/47.html>
- NambooDiripad, S., Lenzen, D., Lepic, R. and Verhoef, T. (2016). Measuring Conventionalization In The Manual Modality. In S.G. Roberts, C. Cuskley, L. McCrohon, L. Barceló-Coblijn, O. Fehér & T. Verhoef (eds.) *The Evolution of Language: Proceedings of the 11th International Conference (EVLANG I I)*. Available online: <http://evolang.org/neworleans/papers/107.html>
- Verhoef, T., Kirby, S. & de Boer, B. (2016) Iconicity and the Emergence of Combinatorial Structure in Language. *Cognitive Science*. 40(8), 1969-1994.
- Verhoef, T., Roberts, S. G., Dingemanse, M. (2015) Emergence of systematic iconicity: Transmission, interaction and analogy. *Proceedings of the 37th Annual Conference of the Cognitive Science Society* (pp. 2481-2486) Austin, TX: Cognitive Science Society.
- Verhoef, T., Kirby, S. & de Boer, B. (2014) Emergence of combinatorial structure and economy through iterated learning with continuous acoustic signals. *Journal of Phonetics* 43C, pp. 57-68
- Verhoef, T. & de Boer, B. (2014) Iterated learning of sound systems and the emergence of tone categories. In *The evolution of language: Proceedings of the 10th international conference (evolangX)*. (pp. 545-546). Hackensack NJ: World Scientific.
- Verhoef, T. (2014) Cultural evolution, compression and the brain. In *The Past, Present and Future of Language Evolution Research* (pp. 22-30).
- Dingemanse, M., Roberts, S. & Verhoef, T. (2014) The role of iconicity in the cultural evolution of communicative signals. In *Workshops of the 10th international conference (evolangX)*, pp. 16-18
- de Boer, B. & Verhoef, T. (2014) Introduction to the workshop on signals, speech and signs. In *Workshops of the 10th international conference (evolangX)*, pp. 11-12
- Verhoef, T. (2013) *Efficient coding in speech sounds: Cultural evolution and the emergence of structure in artificial languages*. PhD Thesis, University of Amsterdam
- Verhoef, T., Kirby, S. & de Boer, B. (2013) Combinatorial structure and iconicity in artificial whistled languages. In M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.), *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (pp. 3669-3674) Austin, TX: Cognitive Science Society.
- Verhoef, T. (2012) The origins of duality of patterning in artificial whistled languages. *Language and Cognition* 4(4), 357-380.
- Verhoef, T., de Boer, B., & Kirby, S. (2012) Holistic or synthetic protolanguage: Evidence from iterated learning of whistled signals. In *The evolution of language: Proceedings of the 9th international conference (evolang9)*. (pp. 386-375). Hackensack NJ: World Scientific. **[Hurford Prize]**
- de Boer, B. & Verhoef, T. (2012) Language Dynamics in Structured Form and Meaning Spaces. *Advances in Complex Systems*, 15(3), 1150021-1-1150021-20
- Verhoef, T., Kirby, S. & Padden, C. (2011) Cultural emergence of combinatorial structure in an artificial whistled language. In L. Carlson, C. Hölscher & T. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society* (pp. 483-488). Austin, TX: Cognitive Science Society.

- Verhoef, T. & de Boer, B. (2011) Cultural emergence of feature economy in an artificial whistled language. In E. Zee & W. Lee (Eds.), *Proceedings of the 17th International Congress of Phonetic Sciences* (pp. 2066-2069). Hong Kong: City University of Hong Kong.
- Verhoef, T., de Boer, B., del Giudice, A., Padden, C. & Kirby, S. (2011). Cultural evolution of combinatorial structure in ongoing artificial speech learning experiments. *CRL Technical Report*, 23(1), 3-11.
- Verhoef, T. & de Boer, B. (2011). Language acquisition age effects and their role in the preservation and change of communication systems. *Linguistics in Amsterdam*, 4(1), 1-23.
- Verhoef, T. & de Boer, B. (2010) The critical period and preservation of emerged vowel systems, In: Smith, A. D. M., Schouwstra, M., de Boer, B. & Smith, K. (Eds.) *The Evolution of Language, Proceedings of the 8th International Conference (evolang8)* (pp. 509–510) New Jersey: World Scientific
- Verhoef, T., Lisetti, C., Ortega, F., van der Zant, T. & Cnossen, F. (2009) Bio-sensing for emotional characterization without word labels, In: J.A. Jacko (Ed.): *Human-Computer Interaction, Part III, HCI 2009*, LNCS 5612, pp. 693–702

Edited volumes

- Ravignani, A., Barbieri, C., Flaherty, M., Lattenkamp, E., Little, H., Martins, M., Mudd, K. & Verhoef, T. (Eds.) (2020) *The Evolution of Language: Proceedings of the 13th International Conference (EVOLANGXIII)*
- Cuskley, C., Flaherty, M., Little, H., McCrohon, L., Ravignani, A. & Verhoef, T. (Eds.) (2018) *The Evolution of Language: Proceedings of the 12th International Conference (EVOLANGXII)*
- Roberts, S.G., Cuskley, C., McCrohon, L., Barceló-Coblijn, L., Feher, O. & Verhoef, T. (Eds.) (2016) *The Evolution of Language: Proceedings of the 11th International Conference (EVOLANGI I)*
- McCrohon, L., Thompson, B., Verhoef, T. & Yamauchi, H. (2014) *The Past, Present and Future of Language Evolution Research*. Student Volume of the 9th International Conference on the Evolution of Language.

Selected academic presentations

- Invited talk for ACLC seminar, "Cognitive biases and cultural evolution in space-time language emergence". Amsterdam Center for Language and Communication, University of Amsterdam, Jun 18, 2021
- Keynote talk at TWIST conference, "Conventionalisation in space and time: emergence of structure and meaning in language". Leiden University, Apr 9, 2021
- Invited talk SAILS Meets LIACS, "Computational approaches in gesture and sign language research", Leiden University, Jun 19, 2020
- Invited talk for This Week's Discoveries, "Quantifying the emergence of sign language structure", Leiden University, Nov 26, 2019
- MIT Computational Psycholinguistics Lab talk, "Cognitive biases and cultural evolution in the emergence of linguistic structure". Department of Brain and Cognitive Sciences at the Massachusetts Institute of Technology, Cambridge, MA, Oct 23, 2019
- Invited talk at workshop on Multimodality in Language Learning and Processing, "Iconic representations of actions and objects: gestural biases and the emergence of patterns in sign language", ESCoP conference, Tenerife, Sept 25 2019
- CogSci 2019: 41st Annual Conference of the Cognitive Science Society, "Compositionality in emerging multi-agent languages: Marrying Language Evolution and Natural Language Processing" [poster], Montreal, July 27 2019
- Invited talk at workshop on The Transmission of Songs in Birds, Humans, and Other Animals, "Cultural transmission and the emergence of structure in whistle sounds", Columbia University, New York, USA, Feb 18 2019
- CogSci 2018: 40th Annual Conference of the Cognitive Science Society, "Neural measures of sensitivity to a culturally evolved space-time language: shared biases and conventionalization", Madison, July 25 2018
- ISGS 8: Conference of the International Society for Gesture Studies, "Non-signers are sensitive to verb and noun encoding in sign languages", Cape Town, July 5 2018
- EvoLang12: 12th International Conference on the Evolution of Language, "The emergence of space-time mappings in language through iterated communication games", Torún, April 16 2018
- SLE 2017: 50th Annual Meeting of the Societas Linguistica Europaea, "Cognitive biases and cultural evolution in the emergence of space-time mappings in language", Zurich, September 11 2017
- Invited talk at workshop on Types of iconicity in language use, development and processing, "Iconicity and systematicity in the emergence of sign language structure", Nijmegen, July 7 2017
- ICPS 2017: International Convention of Psychological Science, "Emergent patterns in gestural representation: experiments investigating cognitive biases and cultural evolution", Vienna, March 24 2017

Invited talk at symposium on Advancing Behavioral And Cognitive Understanding of Speech (ABACUS), "Experiments investigating the emergence of structure and meaning in language", Nijmegen, Jan 14 2017

Invited talk at UCMerced Mind, Technology, & Society talk series: "Experiments investigating the emergence of structure and meaning in language", Merced, Sept 12 2016

ISGS 7: Conference of the International Society for Gesture Studies, "Systematicity in iconic representation: From gesture to sign language", Paris, July 19 2016

Evolang11: 11th International Conference on the Evolution of Language, "Iconicity, Naturalness And Systematicity In The Emergence Of Sign Language Structure", New Orleans, Mar 23 2016

CogSci 2015: 37th Annual Conference of the Cognitive Science Society, "Emergence of systematic iconicity: Transmission, interaction and analogy.", Pasadena, July 24 2015

Sign Language Research Lab talk: "Iconicity and systematicity in artificial sign language learning and interpretation.", University of Haifa, Israel, June 3 2015

CSDL 12: Conceptual Structure, Discourse and Language Conference, "The role of cross-modal biases in cultural evolution of artificial languages", Santa Barbara, Nov 4 2014

Invited talk at workshop on Understanding the nature of human language: new methods, "Iterated learning and the emergence of structure in continuous signals", Edinburgh, Sept 2 2014

EvoLangX: 10th International Conference on the Evolution of Language, "Iterated learning of sound systems and the emergence of tone categories", Vienna, Apr 15 2014

EvoLangX: 10th International Conference on the Evolution of Language, "Musical and linguistic pattern emergence in the lab", Vienna, Apr 14 2014

EvoLangX: 10th International Conference on the Evolution of Language, "The role of iconicity in the cultural evolution of communicative signals.", Vienna, Apr 14 2014

Center for Research in Language (CRL) talk, "Studying the role of iconicity in the cultural evolution of communicative signals", University of California San Diego, Feb 25 2014

Lab talk at Laboratory for Language and Cognitive Neuroscience (LLCN), "Combinatorial structure and iconicity in transmitted artificial whistled languages", San Diego State University (SDSU), Feb 19 2014

Talk in Workshop on cultural evolution and the emergence of linguistic structure, "The emergence of combinatorial structure in transmitted artificial whistled languages", University of Amsterdam, Sept 26 2013

Invited talk. "The emergence of combinatorial structure in transmitted artificial whistled languages" Max Planck Institute for Psycholinguistics (MPI) Nijmegen, June 28 2013

Center for Research in Language (CRL) talk, "Combinatorial structure and iconicity in artificial whistled languages", University of California San Diego, Feb 26 2013

CogBio Seminar talk at the Cognitive Biology department, "Cultural transmission and the emergence of structure in artificial whistled languages", University of Vienna, Oct 15 2012

Language Evolution and Computation Research Unit (LEC) talk, "Does iconicity influence the emergence of combinatorial structure in artificial whistled languages?", University of Edinburgh, 22 May 2012

EvoLang9: 9th International Conference on the Evolution of Language, "Holistic or synthetic protolanguage: Evidence from iterated learning of whistled signals", Kyoto, 16 Mar 2012

ICPhS 2011: 17th International Congress of Phonetic Sciences, "Cultural emergence of feature economy in an artificial whistled language", Hong Kong, 18 Aug 2011

CogSci 2011: 33rd Annual Conference of the Cognitive Science Society, "Cultural emergence of combinatorial structure in an artificial whistled language", Boston, 21 Jul 2011

Language Evolution and Computation Research Unit (LEC) talk, "Cultural emergence of combinatorial structure in artificial sound systems", University of Edinburgh, 18 Jan 2011

Computational Linguistics Seminar (CLS) talk, "Cultural emergence of phonemic structure: agent-based modeling and artificial language learning experiments", University of Amsterdam, 27 Oct 2010

UC Berkeley Lunchtime seminar, "Cultural evolution and the emergence of combinatorial structure in artificial sound systems.", University of California, Berkeley, CA, 1 Oct 2010

EvoLang8 conference talk, "The critical period and preservation of emerged vowel systems", Utrecht, 16 Apr 2010

Science popularization / in the media

Appearance in promo video "The future of AI is human - AI at Leiden University", Leiden University, Jun 3, 2021

Hosting the talkshow "The future of AI is human" as part of SAILS, the Leiden University wide research program on AI, with special guest Jay McClelland from Stanford University, Dec 15 2020

Coverage of "Lowlands Whispers", live experiments at Lowlands Festival, news articles/interviews in New Scientist, Kennislink, Radio West, BNR radio, August 2019

AI symposium, public event at Leiden University, talk in Dutch: "AI en culturele evolutie: hoe communiceren we met robots op een natuurlijke manier?", April 4 2019

PenguinBird BCI dancing robot demo at the IBM Artificial Intelligence for Healthy Living Center (AIHL) SmartHome Demonstration at UCSD, April 2018

Public lecture at 'Dirty Bird' festival as part of the BrainScratch Science lab, "Cultural Evolution of Language, Music, Art and Technology", Oct 7, 2017

Interviewed for "The Daily Orange", article published Sept 21, 2016

Featured in "The Unusual Language That Linguists Thought Couldn't Exist" by Julie Sedivy on Nautilus. Sept 22, 2014

Interviewed for Austrian radio documentary on "Language and Evolution", broadcasted May 21, 2014

Talk at the international 'Pint of Science' festival which fosters community interest in science in local pubs. May 19, 2014

Interviewed for a Al Jazeera America news article: Michael Erard (2014) The discovery of a new language can help explain how we communicate (<http://america.aljazeera.com/articles/2014/4/17/inventing-a-language.html>)

Appearance in 'Zoek het uit!' Klokhuisboek over wetenschap (book for children about science). Book published Oct 2013

Interviewed by VPRO Labyrint Radio about PhD thesis research. Broadcasted live on Sept 22, 2013

Interviewed for NRC Handelsblad/nrc.next newspaper about PhD thesis research. Sept 2013

Short lecture at the official faculty opening of the academic year in de Rode Hoed, Sept 6, 2012

Science Live project in Science Center Nemo: over 400 museum visitors participated and a news article about this appeared on Quest: "Hoe leer je een buitenaardse taal", Aug 3, 2012

Interviewed for Belgian television program 'Man over Woord', broadcasted on Dec 11, 2012

Appearance of my work in a Science Magazine news article: Dennis Normile (2012) Experiments Probe Language's Origins and Development, Science, 27, Vol. 336 no. 6080 pp. 408-411 (<http://www.sciencemag.org/content/336/6080/408.full>)

Short talk for a visit from the board of directors to the Faculty of Humanities (IP-tour) at the University of Amsterdam, Jun 13, 2012

Verhoef, T. (2011). Evoluerende fluittalen: het ontstaan van taal experimenteel onderzocht. Kennislink Vakpagina Taal & Spraak