



Maria M. Hedblom

M.Sc. Cognitive Science

Introduction

I am doing a Phd at the University of Magdeburg on artificial intelligence and cognitive linguistics in computational creativity. The research is built on findings from cognitive psychology and linguistics, in particular the notions of *image schemas* and *conceptual blending*, as a research foundation for computational concept invention. Simultaneously I am a visiting researcher at Free University of Bozen-Bolzano, Italy, to work with colleagues at the KRDB.

Information

Nationality: Swedish
Year of birth: 1986

Contact

www.mariamhedblom.com
Skype: maria.hedblom
maria.m.hedblom@gmail.com

Affiliations

Theoretical Comp. Sci, Group
Institut für Intelligente
Kooperierende Systeme
University of Magdeburg

Concept Research
(CORE) group
KRDB Research centre
Free University of Bozen

Languages

Swedish(Mother tongue) ★★★★★
English (C1) ★★★★★
German (B2) ★★★★★
Japanese ★★★★★
Spanish ★★★★★
Italian(B1) ★★★★★

Computer skills

Python programming
NN-sim: Emergent
Gnuplot
Photoshop
Latex
MicroSoft Office

Research Skills

Qualitative, quantitative and ethnographic research methods.
Statistical data analysis
Communication analysis
Language technology
HCI
Eye-tracking
Critical thinking

Education

04/14 - 10/17
(expected)

Phd in Artificial Intelligence

University of Magdeburg, Germany

The PhD-research is part of the high-profile international research project Coinvent. The project aims to create a computationally feasible, cognitively inspired formal model for concept invention. My own research focuses on image schema and their influence in aiding artificial concept generation through computational conceptual blending.

08/12 - 11/13

Master's Degree in Cognitive Science

University of Linkoping, Sweden

Interdisciplinary studies on the border between human cognition and computational methods.

Main subjects: Computer Science, Linguistics, Psychology.

Title of Master Thesis: "A Cognition-Based Definition of Creativity and A Proposition for Approaching Creativity Artificially".

09/11 - 09/12

Erasmus exchange year

Osnabruck University, Germany

Scientific Secondary School.

Main subjects: Computer Science, Linguistics, Neuroscience.

09/09 - 09/13

Bachelor's Degree in Cognitive Science

University of Linkoping, Sweden

Main subjects: Research Methodology, Computer Science, Psychology

Title of Bachelor Thesis: "The Role of Working Memory in Creative Insight: Correlation analysis of working memory capacity, creative insight and divergent thinking".

08/08 - 06/09

Literature studies

University of Linkoping, Sweden

Main subjects: Literature, Text analysis, Writing.

08/06 - 06/08

International Physics Engineering Program - Japanese

Linkoping Technical University, Sweden

Main subjects: Mathematics, Physics, Japanese.

08/02 - 06/05

Natural Science Gymnasium - Computer Science and Mathematics

Berzeliuskolan, Linkoping, Sweden

Scientific Secondary School.

Main subjects: Mathematics, Natural Science, Computer Science.

Leadership and teaching

Organising scientific workshops
Teaching at Uni. of Magdeburg
Teaching at Linköping Uni.
Chairman

Attended conferences

FOIS + CAOS 2016, Annecy
RaAM 2016, Berlin
KR 2016, Cape Town
DL 2016, Cape Town
AISC 2015, Genoa
CONTEXT + Shapes 3.0 2015, Lanarca
UNILOG 2015, Istanbul
CC Week 2015, London
AIC 2014, Turin
FOIS 2014, Rio de Janeiro
ICCC 2014, Ljubljana

Awarded Grants

04/16 Student Scholarship
KR Committee
11/15 Travel Grant
Shapes 3.0 Committee
09/15-02/16 Mobility Grant
AI*IA
07/14-12/16 PhD-scholarship
Uni. of Magdeburg
06/14 Travel Grant
PROSECCO
04/14-10/16 PhD Scholarship
Coinvent project
03/12 Erasmus Scholarship
10/11 Erasmus Scholarship

Research interests

Artificial Intelligence
Creativity
Linguistics
Cognition
Neuroinformatics
Brain-computer interfaces

Hobbies

Travel
Painting
Literature

Experience

12/15 - 06/17 **Researcher**

Faculty of Computer Science

Free University of Bozen-Bolzano, Italy

Working for the European Union funded project Coinvent, the internally funded projects CIAO and LOGIS, at the Concept Research (CORE) group at the KRDB research centre. Teaching: Course on technical presentation/writing.

04/14 - 11/15

02/17-07/17 **Researcher/Lecturer**

Institute of Knowledge and Language Engineering

University of Magdeburg, Germany

Working in the Theoretical Computer Science group within the Coinvent-project. Teaching: Student project on formalising image schemas, Seminar on Computational Creativity, Survey of Research on the Frontiers of Computer Science.

08/12 - 03/13 **Teacher assistant**

Department of Computer and Information Science

Linköping University, Sweden

The position included teaching during class and correcting student homework in the following courses: *Introduction to cognitive science*, *Programming and discrete mathematics*, *Programming and logic* and *Cognitive modelling*.

Academic responsibilities

Chair: Image Schema Day III (ISD3), 21-23 September 2017, Workshop at JOWO, Bozen-Bolzano, Italy

Chair: *Cognition and OntologieS (CAOS) 2*, 18 April 2017
Symposium at the AISB convention, Bath, UK

Co-organiser: *Image schema day II*, 22 August 2016
Workshop on image schemas and conceptual blending, Bozen-Bolzano, Italy

Chair: *Cognition and OntologieS (CAOS)*, 6 July 2016
Workshop at the FOIS conference, Annecy, France

Publicity chair: *The Joint Ontology Workshop (JOWO)*, 6 July 2016
Joint workshops at the FOIS conference, Annecy, France

Local Organizer: *IAOA'S Third Interdisciplinary Summer School on Ontological Analysis*, 27 June-1 July 2016
Free University of Bozen-Bolzano, Italy

Chair: *Image schema day*, 2 October 2015
Workshop on image schemas and conceptual blending,
Free University of Bozen-Bolzano

Publicity chair: Kvit 2013, a student organized science conference.
Linköping University, Sweden

Volunteer work and elected office

- 07/14 - 08/15 **Informatics Institute's PR-committee** [University of Magdeburg, Germany](#)
Working to promote studies at the computer science department.
- 08/12 - 05/13 **PR / Board member of Kvit** [University of Linköping, Sweden](#)
I was part of the Kvit-group that annually organizes the student science conference Kvit (Cognitive Science and Information Technology).
- 09/09 - 08/12 **Cinema projectionist** [The Movie Association Kårullen, Linköping University](#)
- 06/08 - 06/10 **Chairman** [The Movie Association Kårullen, Linköping University](#)
I was elected as Chairman for the student organized movie association Kårullen. This meant I was responsible for the cinema, its finances and leading the board. I was also the public face and was responsible for the many collaborations with companies and other organisations.
- 09/11 - 09/13 **PR / Board member** [The Movie Association Kårullen, Linköping University](#)

Selected publications

Kinesthetic Mind Reader: A Method to Identify Image Schemas in Natural Language, Dagmar Gromann and Maria M. Hedblom, Proc. of Advancements in Cognitive Systems (ACS), Troy, New York, US (2017)

"A narrative in three acts: Using combinations of image schemas to model events", Besold, T. R., Hedblom, M. M. and Kutz, O., Biological Inspired Cognitive Architectures 19:10-20, 2017

"Image schemas in computational conceptual blending", Hedblom, M. M., Kutz, O. and Neuhaus, F., Cognitive Systems Research 39:42–57, 2016

"Choosing the Right Path: Image Schema Theory as a Foundation for Concept Invention", Hedblom, M. M., Kutz, O. and Neuhaus, F., Journal of Artificial General Intelligence 6(1):21–54, 2015

Breaking Down Finance: A method for concept simplification by identifying movement structures from the image schema PATH-following, Gromann, D., Hedblom, M. M., Proc. of the Joint Ontology Workshops (JOWO), Annecy, France (2016)

"Shape up, baby! Perception, image schemas and shapes in concept formation", Hedblom, M. M. and Kutz, O., Proc. of Shapes 3.0 Workshop, Lanarca (2015) (Accepted for publication)

"Image schemas as families of theories", Hedblom, M. M., Kutz, O. and Neuhaus, F., Proc. of C3GI Workshop, Istanbul, p. 19-33 (2015)

"On the cognitive and logical role of image schemas in computational conceptual blending", Hedblom, M. M., Kutz, O., and Neuhaus, F., Proc. of AGI, Torino, p. 110-121 (2014)

Other Info

More information and references on request

July, 2017

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