

# Curriculum Vitae

**Ulrik Sandborg-Petersen**  
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## Education

2005-2008: PhD, human-centered computer science, University of Aalborg, Denmark.  
2001-2004: MA (cand.mag.) in Human-Centered Informatics, specializing in computational linguistics and knowledge representation.  
1995-2000: B.Sc. In computer science (major) and math (minor). University of Aarhus, Denmark.  
1992-1994: Mathematical high school exam in a Danish "gymnasium".  
1990-1991: Cambridge O'Level GCE, Maru a Pula International Secondary School, Gaborone, Botswana

## Work experience

**May 2010 – present: Postdoc researcher, University of Aalborg, Denmark**

**May 2008 – April 2010: Assistant Professor, University of Aalborg, Denmark**

**2005 – Present: Director, Emergence Consult (self-employed)**

Emergence Consult provides consulting services in the areas of computer programming and highly specialized, automatic text processing, especially of Greek and Hebrew databases. Emergence Consult also sells licenses and commercial support for the Emdros digital delivery database system.

**May 2005 – April 2008: PhD stipendiate, University of Aalborg**

Thesis successfully defended on June 27, 2008. Assessment committee: Assoc. Professor Dr. Hans Götzsche; Professor Ordinarius, Dr. Eep Talstra; Assoc. Professor Galia Angelova. The thesis can be downloaded: <http://ulrikp.org/PhD>

**May 2001 – May 2005: Teaching Assitant, University of Aalborg**

Taught knowledge representation, Prolog programming, Artificial Intelligence, and Microsoft Access. Also developed online teaching materials, see, e.g., <http://www.huminf.aau.dk/cg>. Taught 2<sup>nd</sup> year, 3<sup>rd</sup> year, and 5<sup>th</sup> year students.

**Mar 2002 – 2004: Student worker, University of Southern Denmark**

Developed teaching materials for courses in Microsoft Access and an ontology-builder.

**Oct 2000 – Dec 2000: Cat@log International A/S, Copenhagen**

Worked as a Software Engineer.

**Feb 2000 – Jan 2001: Freelance job for Lars Bækgaard, [www.baekgaard.biz](http://www.baekgaard.biz)**

For Dr. Lars Bækgaard, Associate Professor at Aarhus School of Business, I developed a compiler and interpreter for a database query language.

**Jul 1999 – Sep 2000: Summer Institute of Linguistics (SIL), USA and England**

Full-time volunteer work for SIL as a Software Engineer and Research Assistant. Developed a computational linguistics application in C++. Did research on Ancient Greek in collaboration with a number of linguists.

**Oct 1998 – Jul 1999: Work for Summer Institute of Linguistics, Denmark:**

Did software development of a computational linguistics application for SIL in my spare time (while finishing my B.Sc. Degree).

**Feb 1998 – Aug 1998: Summer Institute of Linguistics, Dallas, Texas:**

Full-time volunteer work for SIL as a Software Engineer and Research Assistant. Developed a computational linguistics application, and deployed it by teaching a number of people to use it. Did editorial work on a large linguistics publication.

**Oct 1997 – Dec 1997: Free University of Amsterdam, The Netherlands:**

Worked as a Pascal-programmer in the Werkgroep Informatica research group, working with database-oriented, computer-aided analysis of Ancient Hebrew under Prof. Dr. Eep Talstra.

**Mar 1997 – Nov 1997: Albatros Internet A/S, Aarhus, Denmark:**

Worked as a Delphi/Java/SQL/Net.Data programmer.

**Aug 1994 – June 1995: Interpoint CAD A/S, Hillerød, Denmark:**

Worked as a C-programmer (i.e., MDL) of third-party CAD-applications for the construction sector, on the MicroStation and PowerDraft CAD-systems from Bentley/Intergraph.

## **Open Source Software**

### **Emdros**

A linguistically oriented text database engine written in C++. <http://emdros.org>

### **Linguistic Tree Constructor**

A tool for drawing linguistic syntax trees. <http://ltc.sourceforge.net>

## **Prolog+CG**

A Java implementation of Prolog with extensions for conceptual graphs. I am only the maintainer, not the original author: <http://prologpluscg.sourceforge.net>

## **Commercial software**

### **Paradigms Master Pro**

A software quiz, quizzing the user on Biblical Greek and Hebrew, as well as Spanish, word-forms. <http://paradigmsmasterpro.com>

### **The Discovery Bible**

A piece of Bible software encompassing two annotated Bibles, a Lexicon of Greek, a 600-page Introduction, two Englishman's concordances, a topical Bible, two Interlinear Greek New Testaments, search facilities, four simultaneously updating windows, and other functionality. All built with very little code on top of Emdros, my ph.d-research-based text database engine. <http://www.helpsbible.com/>

### **Den Danske Studiebibel (forthcoming)**

A piece of Bible software for the Danish market, produced for Scandinavia Publishing House. Built with very little code on top of Emdros. To appear.

## **Bible e-text projects**

### **Biblia Hebraica Stuttgartensia**

I have contracted for the German Bible Society on producing an XML version of the Biblia Hebraica Stuttgartensia (BHS) in UTF-8.

### **Old Danish Bibles**

I am a steward/curator of a number of electronic editions of old Danish Bibles, including: NT 1819, OT 1871, NT 1907, and OT 1931.

### **Bibelen på Hverdagsdansk (The Bible in Everyday Danish)**

I am the main programmer working under contract for Scandinavia Publishing House when it comes to programmatically manipulating "Bibelen på Hverdagsdansk". I have also produced an ePub version of Bibelen på Hverdagsdansk for Scandinavia.

### **Danish Bible Society**

I have in the past contracted for the Danish Bible Society on producing ePub versions of their various Bibles, including the Authorized Version of 1992, Den Nye Aftale (2007), and Bibelen med Apokryfer (1992 + 1998). Thus I am well-versed in producing ePubs programmatically.

## **Greek projects**

### **Tischendorf 8<sup>th</sup> morphology & lemmatization**

I have created a complete morphological analysis and lemmatization of Tischendorf's 8<sup>th</sup> edition Greek New Testament. See <http://morphgnt.org/>

### **Collaboration with James Tauber**

Together with James Tauber, I collaborate on various Greek-related projects, most of which are not yet public.

### **Strong's Greek Dictionary in XML with real Greek**

I am the editor of an electronic edition of Strong's Greek Dictionary to which I've added real Greek and transliteration. <http://ulrikp.dk/strongsgreek>

### **Westcott-Hort electronic text, faithful to the printed edition**

I am part of a loosely knit team that is producing an electronic edition of the Westcott-Hort Greek New Testament which is faithful to the printed edition.

### **Dodson Greek-English lexicon**

I help a man named John Jeffrey Dodson in his efforts to produce and distribute an electronic, high-quality Greek-English lexicon. Mr. Dodson has placed his lexicon into the Public Domain.

### **Dr. Maurice A. Robinson**

I have helped Dr. Maurice A. Robinson on numerous occasions with improving the quality of the analyses in his many Greek New Testaments.

### **Dr. Timothy Friberg**

I am the main programmer helping Dr. Timothy Friberg on his Analytical Greek New Testament and Analytical Greek-English Lexicon projects.

## **Personal Profile**

### **Creative in the world of ideas**

My main source of work-related joy comes from being creative in the world of ideas. For example, it has been lots of fun to write Emdros and my teaching materials.

### **Systematic**

I am capable of very high degrees of self-discipline and systematicity. I am able to make creative ideas stringent and finely honed after a spurt of creative energy.

### **Project-oriented**

I always juggle a large number of projects both in my work life and in my personal life.

### **Analytical**

My brain is strongly analytical. This means, e.g., that I am able to quickly get a grasp of a

large body of information, as well as breaking it down into relevant parts. Afterwards, I am able to give a critique from a high-level perspective.

### **Intuitive**

I am able to quickly search through large solution spaces because of the other strong element in my personality, my intuition. This also undergirds my creativity, and means that I often offer – to others – surprising input.

### **A quick learner**

I am able to quickly absorb large quantities of complex material, and I learn effectively both from written and oral interaction.

### **Self-motivating and responsible**

My self-motivation and sense of responsibility has been a necessity in many of my previous jobs, since I have often had to work without much supervision.

### **A good communicator**

When I write, I usually produce good, clear, effective communication. Over the past 18 years, I have consciously striven to train myself in the art of communication. More than 350 pages of Emdros documentation exemplify my writing skills.

### **A good instructor**

I am good at teaching, and at explaining even complex subjects in such a way that people "see the light". I am also a good presenter/lecturer. Again these skills mean that I am good at writing documentation.

## **Selected publications**

Sandborg-Petersen, Ulrik (2008) An FCA classification of durations of time for textual databases. In: Eklund, Peter and Haemmerlé, Olivier (eds): Supplementary Proceedings of ICCS 2008, CEUR-WS.

Petersen, Ulrik (2007b) Using interoperating conceptual tools to improve searches in Kaj Munk. In: Pfeiffer, Heather D., Kabbaj, Adil and Benn, David (eds.): Second Conceptual Structures Tool Interoperability Workshop (CS-TIW 2007). Held on July 22, 2007 in Sheffield, UK, in conjunction with International Conference on Conceptual Structures (ICCS) 2007. Research Press International, Bristol, UK. Pages 45-55. ISBN: 1-897851-16-2.

Petersen, Ulrik. (2007a) Genesis 1:1-3 in Graphs: Extracting Conceptual Structures from Biblical Hebrew, SEE-J Hiphil Volume 4, [<http://www.see-j.net/hiphil>], Accessed 2007-02-19.

Petersen, Ulrik. (2006c) Prolog+CG: A Maintainer's Perspective. In: de Moor, Aldo, Polovina, Simon and Delugach, Harry (eds.): First Conceptual Structures Interoperability Workshop (CS-TIW 2006). Proceedings. Aalborg University Press.

- Petersen, Ulrik. (2006b) Principles, Implementation Strategies, and Evaluation of a Corpus Query System. In: Yli-Jyrä, Anssi; Karttunen, Lauri; Karhumäki, Juhani (eds), Finite-State Methods and Natural Language Processing 5th International Workshop, FSMNLP 2005, Helsinki, Finland, September 1-2, 2005, Revised Papers, Lecture Notes in Computer Science, Volume 4002/2006, Springer Verlag, Heidelberg, New York, pp. 215-226. DOI: 10.1007/11780885\_21.
- Petersen, Ulrik. (2006a) Querying both Parallel and Treebank Corpora: Evaluation of a Corpus Query System. In: Proceedings of LREC 2006.
- Petersen, Ulrik. (2005) Evaluating corpus query systems on functionality and speed: TIGERSearch and Emdros. In: Angelova, G., Bontcheva, K., Mitkov, R., Nicolov, N. and Nikolov, N. (eds): International Conference Recent Advances in Natural Language Processing 2005, Proceedings, Borovets, Bulgaria, 21-23 September 2005, pp. 387—391.
- Petersen, Ulrik (2004): *Creation in Graphs – Extracting Conceptual Structures from Old Testament Texts*. MA thesis, published in: *Impact, an electronic journal of formalisation in media, text and language*, Aalborg University, Denmark. <http://www.impact.aau.dk/theses.html>
- Petersen, Ulrik (2004): *Emdros -- a text database engine for analyzed or annotated text*, ICCL, COLING 2004 Geneva, 20<sup>th</sup> International Conference on Computational Linguistics, held August 23<sup>rd</sup> to 27<sup>th</sup>, 2004. Proceedings. pp. 1190—1193.
- Schärfe, Henrik, Ulrik Petersen and Peter Øhrstrøm (2002): *On teaching conceptual graphs*. Proceedings of ICCS '02, 10th International Conference on Conceptual Structures, Borovets, Bulgaria, July 15-19, 2002. Lecture Notes in Artificial Intelligence Vol. 2393, Springer Verlag, Berlin.

## **Technical qualifications**

### Formal languages

- C++
- Python
- In the process of learning Objective-C/Objective C++.
- Java
- C
- SQL
- HTML/CSS
- XML
- PHP
- Pascal / Object Pascal / Delphi
- Assembler (6502/6510)

### Operating systems (as a user and programmer)

- Linux
- Windows
- Mac OS X
- Solaris
- In the process of learning iOS

### Databases (as a user and programmer)

- MySQL
- PostgreSQL
- SQLite
- Microsoft SQL Server
- MS Access

### Hardware (as a programmer)

- Commodore 64 (I knew it inside out in my teens)
- Some knowledge of the PC platform

## **Natural languages**

### **Spoken and written languages**

- English (native speaker)
- Danish (mother tongue)

### **Spoken languages**

- German (conversational level)
- Swedish (conversational level)
- Dutch (can almost keep a conversation going)

### **Languages read**

- Koine Greek
- Some Hebrew

## **Grants**

- Got a stipend from the Danish State to do my PhD.

## **Awards and honors**

- Winner of the 2009 Spar Nord Foundation Research Prize (about USD \$50,000) for best research project at Aalborg University in 2008-2009.
- Winner, 1<sup>st</sup> place, of the 1990 Junior National Mathematics Olympiad in Botswana.

## **Personal details**

Date of birth: June 9, 1975  
Citizenship: Danish  
Marital status: Married, with three children  
Interests/hobbies: Improvise/Compose/play at the piano, read (especially Koine Greek).