

# Curriculum Vitae

**Dr Oskar Sandberg**  
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Sweden

Year of Birth: 1980  
Citizenship: Swedish  
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## Education

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- 2003-2007*      **Chalmers University of Technology and Göteborg University**, Göteborg, Sweden  
Ph.D. in Mathematical Statistics. Thesis titled "The Structure and Dynamics of Navigable Networks" defended in December 2007.
- 1997-2003*      **Stockholm University**, Stockholm, Sweden  
Master of Science in Mathematics.
- 1994-1997*      **Kungsholmens Gymnasium** Stockholm, Sweden  
International Baccalaureate Diploma.

## Work Experience

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- 2009-*            **Google Switzerland GmbH**, Zürich, Switzerland  
Software Engineer, Search Properties.
- 2008-2009*      **Google UK Limited**, London, United Kingdom  
Software Engineer, Ads Syndication.
- 2003-2008*      **Chalmers University of Technology and Göteborg University**, Göteborg, Sweden  
Full postgraduate studentship with part-time teaching. Teaching duties included leading courses and co-advising masters students.
- 05-08/00 05-08/01*  
**Freenetproject Inc.**, Los Angeles California (Non-profit)  
Core software and protocol designer, as well as java programmer of distributed P2P software.

## Other Merits

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- 1999-*            Part time volunteer for FreenetProject Inc. and other free software projects.
- 2001-*            Experienced public speaker. I have spoken at conferences, workshops, companies, and universities around the world.
- 2005-*            Many appearances on Swedish national TV and other media explaining my research to a broader audience.

## Experiences and Interests

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**Languages:** English, Swedish (both fluent since childhood)

**Computer Skills:** Programming in java, C++, C, python, pascal, lisp, matlab, perl, ruby, and other languages. Usages and administration of Linux systems and networks. Usage of Windows, Mac, Solaris, others.  $\text{\LaTeX}$  typesetting.

## List of Publications

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- [1] O. Sandberg. Decentralized search with random costs. Preprint, 2008, arXiv:0804.0577v1.
- [2] O. Mogren, O. Sandberg, V. Verendel, and D. Dubhashi. Adaptive dynamics of realistic small-world networks. In *Proceedings of The European Conference on Complex Systems 2009*, 2009, arXiv:0804.1115v1.
- [3] O. Sandberg. Double clustering and graph navigability. Preprint, 2007, arXiv:0709.0511v1.
- [4] O. Sandberg. Phase transitions in partially structured random graphs. Preprint, 2007, arXiv:0804.0137v1.
- [5] O. Sandberg. Neighbor selection and hitting probability in small-world graphs. *The Annals of Applied Probability*, 18:1771–1793, 2008, arXiv:math.PR/0702325.
- [6] O. Sandberg. Distributed routing in small-world networks. In *Proceedings of the Eighth Workshop on Algorithm Engineering and Experiments (ALENEX06)*, 2006.
- [7] I. Clarke, T. Hong, S. Miller, O. Sandberg, and B. Wiley. Protecting free expression online with Freenet. *IEEE Internet Computing*, 6:40–49, 2002.
- [8] I. Clarke, T. Hong, O. Sandberg, and B. Wiley. Freenet: A distributed anonymous information storage and retrieval system. In *Proceedings of the ICSI Workshop on Design Issues in Anonymity and Unobservability*, pages 311–320, Berlin / Heidelberg, 2000. Springer.
- [9] O. Sandberg. *The Structure and Dynamics of Navigable Networks*. PhD thesis, Chalmers University of Technology and Göteborg University, Göteborg, Sweden, 2007.
- [10] O. Sandberg. *Constructions of the Harmonic Measure with Probabilistic and Discrete Time Methods*. Master’s thesis, Stockholm University, Sweden, June 2003.

## List of Speaking Appearances

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### Conference Talks

- Nov 2001 “Attacking P2P Networks” at “The O’Reilly Peer-to-Peer and Web Services Conference”, Washington DC (with Scott G. Miller).
- Jul 2005 “Routing in the Dark: Scalable Searches in Dark P2P Networks.”, at Blackhat Security Conference, Las Vegas, Nevada (with Ian Clarke).
- Aug 2005 “Routing in the Dark”, Defcon 13, Las Vegas, Nevada (With Ian Clarke).
- Oct 2005 “Private Communication in a Dark Network”, at Dagstuhl Workshop on Anonymous Communication and its Applications, Dagstuhl, Germany.
- Nov 2005 “Små världar och mörka nätverk”, at SMS Höstmöte 2005, Karlstad, Sweden.

- Dec 2005      *"Covert Communication in a Dark Network"*, at "22C3 - Private Investigations", Berlin, Germany (with Ian Clarke).
- Jan 2006      *"Distributed Routing in Small-World Networks"* at The Eighth Workshop on Algorithm Engineering and Experiments (ALENEX06), Miami, Florida.
- May 2006      *"Distributed Routing in Small Worlds"* at "IMS Program on Random Graphs and Large Scale Real World Networks", Singapore.
- Mar 2007      *"Double Clustering and Small World Navigation"* at "YEP Workshop on Random Graphs and Complex Networks, Eindhoven, Netherlands.
- May 2007      *"The Evolution of Small-World Networks"*, at "COST 295 - 1st Workshop on Dynamic Networks", Salerno, Italy.
- Jul 2007      *"Navigation of Small-World Graphs"*, at "IAS Park City Mathematics Institute 2007", Park City, Utah.
- Aug 2007      *"Network Mathematics: Why is it a Small World?"* at "Defcon 15", Las Vegas, Nevada.
- Sep 2009      *"Adaptive Dynamics of Small-World Networks"* at "The European Conference on Complex Systems 2009", Coventry, United Kingdom.

#### Others

- Aug 2006      *"Small Worlds and Dark Networks"*, at Chalmers Technical University and Göteborg University, Mathematics Colloquium, Göteborg, Sweden.
- Jan 2006      *"Small Worlds and Dark Networks"*, at Chalmers University of Technology, Computer Science Department Winter Meeting.
- Jan 2006      *"The Evolution of Small World Networks"*, Licenciate Presentation at the Chalmers University of Technology and Göteborg University, Göteborg, Sweden.
- Apr 2006      *"Distributed Routing in Small Worlds"*, University of St. Andrews Computer Science Seminar, St. Andrews, Scotland.
- Dec 2006      *"Små Världar och Mörka Nätverk"*, Omegapoint AB Development Seminar, Stockholm, Sweden.
- Apr 2007      *"Små Världar och Mörka Nätverk"*, Göteborgs Stadsbibliotek, Goteborg, Sweden.
- May 2007      *"Double Clustering and Small-World Navigation"*, Stockholm University, Mathematical Statistics Seminar, Stockholm, Sweden.
- Sep 2007      *"Små Världar och Mörka Nätverk"*, Bältspännarparken, Goteborg, Sweden. Part of EU Researchers' Night 2007.
- Dec 2007      *The Structure and Dynamics of Navigable Networks*, PhD Defense at Chalmers University of Technology and Göteborg University, Göteborg, Sweden.