Curriculum Vitae — Lars Kai Hansen

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Personalia

Born September 16, 1957 (Samsø, Danmark).
Married, two children (1982,1987).

Education

- 1976-83. Studies in physics and mathematics, University of Copenhagen.
- 1983. MSc. Physics, University of Copenhagen.
- 1984-1986. Kandidatstipendiat, Physics, University of Copenhagen.
- 1986. Gold Medal of the University of Copenhagen.
- 1986. Ph.D. Physics, University of Copenhagen.
- 1992. Course in Pedagogical Methods, Technical University of Denmark.

Employments

- 1986-87. Research Assistant, Physics Laboratory, University of Copenhagen.
- 1987-90. Researcher, Andrex Radiation Products A/S.
- 1988-89. Visiting Professor San Diego State University (7 months).
- 1990-94. Assistant Professor, Electronics Institute, Technical University of Denmark.
- 1994-95. Associate Professor, Electronics Institute.
- 1996-2000. Associate Professor, Department of Mathematical Modelling, Technical University of Denmark.
- 1997-98. Visiting Professor Brain Image Analysis Lab., University of California San Diego (6 months).
- 2000-. Professor, Informatics and Mathematical Modelling, Technical University of Denmark.
- 2011. Catedra de Excelencia, Dep. Signal Theory and Communications, Universidad Carlos III de Madrid.

Professional activities

Research interests

Statistical machine learning with applications in bio-medicine and digital media.

Organization and major research grants

- Member of the The Danish Council for Independent Research | Technology and Production Sciences (FTP)
- Head of *THOR Center for Neuroinformatics*, DTU Informatics, Technical University of Denmark. The center was initially founded on a grant from the Danish Research councils ‘Thor’ plan in 1998.

- Head of *Intelligent Sound*. Framework project funded by the Danish Technical Research Council (14 mill. DKK $\approx$ 1.9 mill Euro, 2005-2009). Participants from Aalborg University (Communication Technology and Computer Science). www.intelligentsound.org.
- Cofounder and principal investigator in *Center for Integrated Molecular Brain Imaging (CIMBI)*. Center funded by the Lundbeck Foundation (80 mill DKK $\approx$ 10.6 mill Euro, 2006-2015, project headed by Prof. G.M. Knudsen, Rigshospitalet, Denmark.) www.cimbi.dk
- Principal investigator in the Danish Strategic Research Council *Responsible Business in the Blogosphere* project. In collaboration with Mette Morsing, Center for Corporate Social Responsibility, Copenhagen Business School (Funding 1.6 mill Euro 2009-2012).
- Principal investigator in *PERCEPT* EU FP6 project on cognitive systems (Funding 1.8 mill Euro, project headed by Boris Velichowsky, TU Dresden, 2007-2009).
- *CONNECT*. Cofounder of National Research center for neural networks research in collaboration with the Niels Bohr Inst., and other institutions in Denmark (1991-2001) The center attracted contiguous funding from the Danish Research Councils in a ten year period (accumulated ca. 20 mill DKK). From 1999-2001 head of CONNECT.
- Head of *CISP Copenhagen Signal and Image Processing Graduate School*, funded by the Danish Research Training Council (2001-2004), with participants from the IT University and DIKU, University of Copenhagen.
- Co-Principal Investigator in *Spatial and Temporal Patterns in Functional Neuroimaging* funded by National Institutes of Health, through the US Human Brain Project (1993-2006). This project funded postdoc salary and travel costs for members of the THOR Center on the US Government grant for about ten years. Project headed by prof. David Rottenberg, University of Minnesota.
- Additional grants: Prof. Ingemar Cox, University College London (Mønsted Foundation, 3 months). Co-principal investigator in *MAPAWAMO Mapping visual cortical regions in awake, behaving monkey using functional MRI*. funded by the EU Commission (Project headed by Guy Orban KU Leuven, Belgium). Principal Investigator in *DIADEME*: project on bio-mass quantification by image analysis, funded by the European Union MAST II program (project headed by prof. Peter Kofod Bjørnsen, University of Copenhagen). Principal Investigator in the *Interdisciplinary Neuroscience Project* funded by the Danish Research Councils (project headed by prof. Olaf Paulson, Rigshospitalet). Principal Investigator in BIOMED 2 project *Visual Object Recognition*, (project headed by prof. Anders Gade, University of Copenhagen). EU Training and Mobility Postdoc Grants: Mattias Ohlsson (Lund, Sweden) 24 months. Rod Murray-Smith (Berlin, Germany) 24 months. Danish partner in EU network MAC: *Multi-Agent Control: Probabilistic reasoning, optimal coordination, stability analysis and controller design for intelligent hybrid systems* (Project headed by Rod Murray Smith, Glasgow University, Scotland). Visiting professor grants for Prof. Peter Salamon San Diego State University (12 months).
- Member of editorial board of The Open Medical Imaging Journal and Open Medical Informatics Journal(2007, withdrawn 2008 based on the Journal's economical policies). Associate editor of the journal 'Computational Intelligence and Neuroscience' (2006-2008). Editor-in-Charge of the International Journal of Neural Systems. (with Alan Murray) (1998-2000). Member of Editorial Board of IEEE Transactions of Neural Networks (1998-2000).
- Co-organizer of neural net workshops in Alden Biesen, Belgium (1993,1996). Co-organizer of neural net workshops in Telluride, Colorado (1990, 1992 and 1995).
- Organizer of Human Brain Project workshop in Ebeltoft, June 1999. Organizer of THOR Workshop Bornholm March 2001. Organizer of Intelligent Sound Workshops: Korsør, May 2005; Sæby May 2006; Karlslunde, May 2007.
- Co-organizer EMMDS2009, DTU, July 2009.
- Proposer and co-organizer for NIPS Workshop RUMBA Two-Day Workshop: Concepts and Methods in Neuroimaging. Whistler, British Columbia, Canada, December, 2001 and December, 2002. Proposer and co-organizer for NIPS Workshop on Multimodal Signal Processing Whistler, British Columbia, Canada, December 2004.

Invited Talks

- International Symposium on Forecasting, Stockholm 1994, Gordon Research Conference on Thermodynamics of Algorithms, Bavaria 1994, Autumn School and Neural Net Workshop, Wurzburg 1995, Annual Meeting of the Swedish Neural Network Society, Stockholm 1995. Computer-Art-Film: International Symposium at The National Film School of Denmark, May 1996. Member of panel for discussion session on dataanalysis at the Third International Conference on Human Brain Mapping, Copenhagen May 1997. International Workshop Brain and Self: Member of Panel on Neural Basis for Consciousness, Elsinore August 1997. McDonnell-Pew Seminar, Salk Institute, USA, March 1998. Tutorial on neural networks for brain mapping, NORSIG'98 Nordic Conference on Signal Processing, Vigsø, June 1998. DSAGM Symposium, Dept. of Computer Science, Univ. Copenhagen, August 1998. Tutorial on Artificial Neural Networks, International Conference on Hydroinformatics on August 24-26 1998 Copenhagen. Workshop on Basic and Clinical Applications of Human Brain Mapping, Aalborg January, 1999. Workshop on Computational Issues in Motor Control Aalborg, January 1999. Max Planck Institute Seminar on Statistical Physics of Neural Networks, Dresden March 1999. ICANN'99 post conference workshop Edinburgh, Scotland, Sep 1999. Interdisciplinary Inversion Workshop 6, Aarhus Universitet, Sep 1999 Minnesota Workshop on Magnetic Resonance Imaging of Brain Function Minneapolis, October, 1999. Post-NIPS workshop on Computational Brain Imaging Breckenridge, Colorado, Dec, 1999. Keynote presentation: Testing Competing Hypothesis about Single-Trial fMRI". Gatsby Unit Bayesian fMRI day. University College of London, UK, December 15, 2000. Computers in Science Seminar, Aarhus University, DK, Apr 5, 2000. Workshop on Analysis of Neural Data Woods Hole, USA, Sep 1, 2000. Advances in Neural Information Processing Systems (NIPS*2000) Workshop on Explorative analysis of functional neuroimages. Max Planck Institute Seminar on Statistical Physics of Neural Networks, Dresden, Germany, Mar 2001. Nordic Interactive Conference, Copenhagen Nov 1, 2001. Opening of Copenhagen Brain Research Center, Rigshospitalet, Copenhagen Apr 5, 2002. Computer Science Seminar, University of California, San Diego, July 10, 2002. Computer Science Seminar, Informatics and Mathematical Modelling, Nov 22, 2002. Departo de Teoría de la Señal y Comunicaciones, Universidad Carlos III de Madrid, Spain. IGERT Neuroinformatics symposium, Minneapolis, April, 24 2003. European Summer School on ICA - from Theory to Applications Berlin, Germany, June 16 2003. University of Copenhagen, October 2003, Methods in Brain Imaging and Cognitive Neuroscience, Rutgers Univ. USA, April 2005. Nathan Kline Institute, New York April 2005. Center of Visual Cognition, University of Copenhagen, 2005. Thiele Workshop on fMIR, Sandbjerg, Nov 22-23, 2005. Predictive Coding Workshop, invited workshop speaker, CFIN Aarhus University, Feb 9, 2006. The Rutgers Conference on Philosophical Foundations of Neuroimaging April 27 & 28, 2006, Rutgers University, New Jersey, USA. Medical Image Analysis Lab Olin Neuropsychiatry Research Center, Institute of Living, Hartford, USA, April 2006. Computer Science Seminar, University of California, San Diego, July 11, 2006. Advances in Neural Information Processing Systems (NIPS) invited workshop speaker, Dec 2006. Public seminar organized by 'Mind and Body', Univ. Copenhagen, Jan 2006. Danish Society for Computer Science, March 2007. Two-Day meeting of Danish Society for Theoretical Statistics, November, 2007. 'Workshop on Algorithms for Modern Massive Data Sets' (MMDS 2008), Stanford University June, 2008. IPAM Workshop on Mathematics in Brain Imaging, UC Los Angeles, July, 2008. Advances in Neural Information Processing Systems (NIPS) invited workshop speaker, Dec 2008. Matrix Computations & Scientific Computing Seminar (UC Berkeley, January 21) Redwood Center for Theoretical Neuroscience, UC Berkeley, January 22, 2009. Plenary talk ICANNGA'09, Int. Conference on Adaptive and Natural Computing Algorithms Koupio, Finland, April, 2009. BBCI Workshop Bernstein Brain Computer Interaction Berlin, July 6, 2009. MLSP 2009 Plenary talk, IEEE Workshop Machine Learning for Signal Processing, Grenoble, Sep 2, 2009. AI Seminar, Dept. Computer Science UC San Diego (Jan, 2010). Dept. of Psychology, UC Santa Barbara (Jan 2010). Formal DCCN Colloquium, Donders Intitute for Brain, Cognition and Behaviour (Nijmegen, May 2010). Keynote talk Bernstein Conference 2010 (Sep 2010, Berlin). ZKW Kolloquium, Center for Cognitive Sciences, University of Bremen (Apr 18 2011, Bremen).
- Talk at the 1996 Celebration of the Technical University of Denmark.

Other reviews and committees

- Member of IEEE Signal Processing Society Technical Committee on Neural Networks (1996-1998). Advisory board member (1998-)

- Chairman for the Danish Chapter of IEEE Signal Processing Society (2001-2002).
- Conference vicechair NORSIG'98 Nordic Conference on Signal Processing, Vigsø, June 1998.
- Member of Organizing Committee EUSIPCO 2010 (Plenary talks).
- Member of Program Committee NIPS∗98 (Area-chair: Applications and Implementations areas)
- Review Coordinator for sessions on Neural Networks and Pattern Recognition: International Conference on Neural Networks (ICNN'96), International Conference on Acoustics, Speech and Signal Processing ICASSP'96 and ICASSP'97. European Signal Processing Conference EUSIPCO 2007, 2008.
- Project proposal review for Swedish Technical Research Council (1996). Ten project proposal reviews for the Swedish Foundation for Strategic Research (2001).
- Review and member of panel Vetenskabsraatet, Research Council, Sweden (2007, 2008, 2009, 2010).
- Academy of Finland. Project proposal evaluation, evaluation of two Centers of Excellence (2005), and evaluation of Academy Professor application (2005). Evaluation of ESF application (2006). Panel Member (2007, 2008). Chair of panel in bio-medical engineering (2009, 2010). Chair of panel in data analysis (2011).
- National Institutes of Health, Washington, USA. Member of Human Brain Project proposal review committee ("Study Section") March 1998, October 2002, May 2003.
- Guest editor (with M Nielsen, P. Johansen): Special issue of Journal of Mathematical Imaging and Vision (2002). Guest editor (with T. Adali et al.) IEEE Journal of Selected Topics in Signal Processing (J-STSP) Special Issue on fMRI Analysis for Human Brain Mapping (2009).
- Reviewer for: NeuroImage, International Journal of Neural Systems, Journal of Geophysical Research: Solid Earth, NIPS∗96, NIPS∗98, IEEE Transactions on Systems, Man and Cybernetics, IEEE Transactions on Signal Processing. Europhysics Letters, ICASSP'98, NORSIG'98. NIPS∗01,NIPS∗02,NIPS∗06, Neural Computation, NeuroImage, Neural Computation, ISCAS2008.
- Other scientific committee memberships: IEEE Workshop on Neural Networks for Signal Processing 1995 (NNSP'95), NNSP'97. ECCV'2002, ICA'2001. NORSIG'2002,2004,2006, KES2004,2005,2006. LEARNING'04, EUSIPCO 2007, MICCAI Workshop on functional neuroimaging (2008). SCIA 2007, 2009.
- Member of NISAC - Nordic IJCAI Scientific Advisory Committee (1999).
- External member of 13 Ph.D.-committees, eight in DK, two in Sweden, in France, in Finland, and in Belgium. External examiner for oral Ph.D.-exam. at Dept. of Biochemistry, DTU, 1999.
- Member of evaluation committee for Doctoral thesis Aarhus University (2005-06).
- External examiner for numerous MSc. projects: Aarhus University, Odense University, University of Copenhagen (Niels Bohr Institute and Dept. of Computer Science), and Aalborg University. Member of examiner corps in computer science and in engineering.
- Chairman of evaluation committee for assoc. prof. position in multimedia applications, Center for Tele-Informatics, Technical University of Denmark. Member of search committe for "Docent", Ingeniørhøjskolen i Aarhus. Chairman for evaluation committee for full professorship in communications, Technical University of Denmark. Chairman for evaluation committee for full professorship in computer vision, IT-University Copenhagen. Member of evaluation committee for full professor in signal processing, Aalborg University, 2006. Chaiman for evaluation committee for full professor in image analysis, DTU, 2007.
- Evaluation of full Professor in Physics Helsinki University of Technology.
- Professor promotion letters in the US and Canada: Illinois Institute of Technology, Chicago; Florida State University Tallahassee, Florida; Univ. Califonia San Diego; Univ. New Mexico, Albuquerque, New Mexico, University of Toronto, Toronto, Canada. City University, New York.

Teaching

- Main supervisor for seven on-going Ph.D.-projects. one is funded by the Danish Strategic Research Councils, one is funded by LundbeckFonden, and five are funded by the Technical University of Denmark.

- Main supervisor for 30 completed Ph.D-projects.
- Co-supervisor for ten completed Ph.D-projects.
- Ph.D.-courses: Advanced Digital Signal Processing (June 1996,1999,2000,2002,2003,2005,2006,2007), Medical Informatics (October 1996), Topics in Learning Theory (2000), Cognitive Systems (2006).
- Main supervisor for more than 75 DTU MSc. projects 1991-2007.
- MSc.-courses, DTU: Digital Signal Processing Methods, Non-linear Signal Processing, Applied Digital Signal Processing, Advanced Topics Digital Signal Processing. Numerous individual projects in digital signal processing, neural networks, and application areas.

Innovation related activities

- The THOR Center for Neuroinformatics hosted the start-up company HypoSafe (2006-07). HypoSafe has a patented technology for diagnosing low blood sugar levels based on EEG (electric brain waves), the system is partly developed by DTU on contract.
- The Intelligent Sound project has spun-off the machine learning consultancy company Epital A/S (www.epital.dk).
- Extensive private consultancy to industry: Danish Technological Institute, NEuroTech A/S, Andrex Radiation Products A/S, Magnus Petersen A/S, Midas Aps, Celwave RF A/S, Danish Institute of Technology Innovation. GN Resound A/S.

Other professional activities

- Numerous popular presentations on neural networks and neuroimaging in companies, schools and public fora.
- Collaboration with the Danish science museum *Experimentarium*, on the Human Brain exhibition (1997) and the FutureBody exhibition (2000).
- National radio and TV appearances: 'Studio 2000' , radio interviews, 'Harddisken', radio interviews. Radio interview 'DR Principia', September 24, 2002. 'Viden-Om' October 12, 2004, TV interview and expert panel on Web-site. 'Morgenradio' 2005.
- Danish Science Festival 2000: Abstract for talk in festival catalogue. Three popular talks. Danish Science Festival 2002: Abstract for talk in festival catalogue. Two popular talks. Consultant for impromptu play 'brain builders'. Danish Science Festival 2008: Talks at high schools on neuroscience and search engines.

Publications

- **Summary**

  In total 271 reviewed publications: 1 book, 88 journal papers, 12 book chapters, and 170 full conference papers. Accumulated more than 8500 citations, h-index = 41 (Google Scholar/ Harzing).

- **Books**

1. P.M. Nørgaard, O. Ravn, N.K. Poulsen, and L.K. Hansen: *Neural Networks for Modelling and Control of Dynamic Systems*. Advanced Textbooks in Control and Signal Processing, Springer-Verlag Ltd. (2000).

- **Journal papers**

2. L.K. Hansen and K. Carneiro, *On the Peierls Transition in a Pinning Potential*. Solid State Comm. **49**, 531, (1984).
3. L.K. Hansen and K. Carneiro, *The Peierls Transition in Pinning Potentials from Counterions*. Mol.Cryst.Liq.Cryst. **120**, 413, (1985).
4. K. Carneiro, L.K. Hansen, A. Braude, K. Mortensen, C.S. Jacobsen, D. Turner and A.E. Underhill, *Regular Properties and anomalous behavior of Conducting Metal-Oxalato-Platinates, M-OP (M=Ni,Co,Zn,Mg,Mn)*. Mol.Cryst.-Liq.Cryst. **119**, 471, (1985).
5. L.K. Hansen and D. Baeriswyl, *Collective Modes and Impurity Effects in Onedimensional Charge Density Wave Systems*. Journal of Physics **C19**, 5615, (1986).
6. L.K. Hansen and K. Carneiro, *Coulomb Induced Pseudo-Critical Behavior in Disordered CDW's*. Physica **143B**, 216, (1986).
7. J.S. Petersen, K. Carneiro, L.K. Hansen and M. Almeida, *Phonons in TCNQ Conductors Measured by Inelastic Neutron Scattering and Their Relation to Electronic Correlations*. Synth. Metals **19**, 433, (1987).
8. P. Alstrøm, L.K. Hansen and D.R. Rasmussen, *Cross-over Scaling for Moments in Multifractal Systems*. Physical Review **A36**, 827-837, (1987).
9. L.K. Hansen and P. Salamon: *Neural Network Ensembles*. IEEE Transactions on Pattern Analysis and Machine Intelligence **12** 993-1001 (1990).
10. L.K. Hansen: *Stochastic Linear Learning: Exact Test and Training Error Averages*. Neural Networks **6**, 393-396, (1993)
11. L.K. Hansen, R. Pathria and P. Salamon: *Stochastic Dynamics of Supervised Learning*. Journal of Physics A **26**, 63-72, (1993)
12. P. Salamon, J.C. Wooton, A.K. Konopka, and L.K. Hansen: *On the Robustness of Maximum Entropy Relationships for Complexity Distributions of Nucleotide Sequences*. Computers and Chemistry **17**, 135-148, (1993)
13. J. Gorodkin, L.K. Hansen, A. Krogh, C. Svarer, and O. Winter: *A Quantitative Study of Pruning by Optimal Brain Damage*. Int. Journ. Neural Systems **4**, 159-171, (1993)
14. L.K. Hansen and N. Lindbo Larsen: *Industriel anvendelse af neurale netværk*. KVANT Fysisk Tidskrift **4**, 22-23, (1993) (in Danish).
15. L.K. Hansen and C.E. Rasmussen: *Pruning from Adaptive Regularization*. Neural Computation **6** 1223-1232 (1994).

16. L.K. Hansen: *Book Review: Time Series Processing: Forecasting the Future and Understanding the Past. Eds. A.S. Weigend and N. Geshenfeld*. Invited book review for International Journal of Neural Systems (1994).
17. L.K. Hansen and J. Larsen:*Linear Unlearning for Crossvalidation* Advances in Computational Mathematics **5** 269-280 (1996).
18. L.K. Hansen, C. Liisberg, and P. Salamon: *The Error-Reject Trade-Off*. Open Systems and Information Dynamics **4**, 159-184, 1997.
19. L.K. Hansen: *Commentary on paper by Nicholas Lange and Scott Zeger*. Invited comment on "Lange N, Zeger SL. Non-linear Fourier time series analysis for human brain mapping by functional magnetic resonance imaging (with Discussion)". J Royal Stat Soc, Appl Stat (1997).
20. C. Goutte and L.K. Hansen: *Regularization by a Pruning Prior*. Neural Networks **10**, 1053-9 (1997).
21. L.K. Hansen, I. Law, E. Rostrup, C. Svarer, O.B. Paulson: *Tankebilleder*. Naturens Verden **7** 268-276 (1997)
22. S.C. Strother, N. Lange, J.R. Anderson, K.A. Schaper, K. Rehm, L.K. Hansen, and D.A. Rottenberg: *Activation pattern reproducibility: Measuring the effect of group size and data analysis models*. Human Brain Mapping **5**, 312-316 (1997).
23. J. Larsen and L.K. Hansen: *Generalization: The Hidden Agenda of Learning* in J.-N. Hwang, S.Y. Kung, M. Niranjan & J.C. Principe (eds.), The Past, Present, and Furture of Neural Networks for Signal Processing, IEEE Signal Processing Magazine, 43-45, Nov. 1997 (1997).
24. J. Gorodkin, L.K. Hansen, B. Lautrup and S. Solla: *Universal distribution of saliencies for pruning in layered neural networks* International Journal of Neural Systems, Vol. 8, Nos. 5 & 6 489-498 (1997)
25. M. Hintz-Madsen, L.K. Hansen, J. Larsen, M.W. Pedersen, and M. Larsen: *Neural Classifier Construction Using Regualrization, Pruning and Test Error Estimation*. Neural Networks, **11**, 1659-1670 (1998).
26. J.E. Wilhjelm, M.-L.M. Grønholdt, B. Wiebe, S.K. Jespersen, L.K. Hansen & H. Sillesen: *Quantitative Analysis of Ultrasound B-mode Images of Carotid Atherosclerotic Plaque: Correlation with Visual Classification and Histological Examination*. IEEE Transactions on Medical Imaging, Vol. 17. No. 6. pp 910-922, (1998).
27. C. Goutte, P. Toft, E. Rostrup, F.Å. Nielsen and L.K. Hansen: *On clustering fMRI time series*. NeuroImage **9**:298-310, (1999).
28. L.K. Hansen, J. Larsen, F.Å. Nielsen, S.C. Strother, E. Rostrup, R. Savoy, N. Lange, J.J. Sidtis, C. Svarer, O.B. Paulson: *Generalizable Patterns in Neuroimaging: How Many Principal Components?* NeuroImage **9**, 534-544 (1999).
29. U. Kjems, S.C. Strother, J. Anderson, I. Law, L.K. Hansen. *Enhancing the Multivariate Signal of 15-0 water PET Studies With a New Non-Linear Neuroanatomical Registration Algorithm*. IEEE Transactions in Medical Imaging **18** 306-319, (1999).
30. N. Lange, S.C. Strother, J.R. Anderson, F.Å. Nielsen, A.P. Holmes, T. Kolenda, R. Savoy, L.K. Hansen. *Plurality and Resemblance in fMRI Data Analysis* NeuroImage, **10** (3):282-303, (1999)
31. Liow JS. Rehm K. Strother SC. Anderson JR. Morch N. Hansen LK. Schaper KA. Rottenberg DA. *Comparison of voxel- and volume-of-interest-based analyses in FDG PET scans of HIV positive and healthy individuals* Journal of Nuclear Medicine. 41(4):612-621, (2000).
32. C. Goutte, F.AA. Nielsen, L.K. Hansen *Modelling the heamodynamic response in fMRI with smooth FIR filters* IEEE Transaction on Medical Imaging, **19** 1188-1200 (2000).
33. C. Goutte, L.K. Hansen, M.G. Liptrot and E. Rostrup. *Feature-Space Clustering for fMRI Meta-Analysis*. Human Brain Mapping **13** 165-183 (2001).
34. L.K. Hansen, F.AA. Nielsen, S.C. Strother, N. Lange *Consensus Inference in Neuroimaging*, NeuroImage **13** 1212-1218, (2001).
35. L.K. Hansen, F.Å. Nielsen, and J. Larsen. *Exploring fMRI data for periodic components*. Artificial Intelligence in Medicine, 25(1): 35-44, (2002).

36. F.Å. Nielsen and L.K. Hansen: *Modeling of activation data in BrainMapTM: Detection of outliers* Human Brain Mapping, **15**(3): 146-156 (2002).

37. J. Larsen and L.K. Hansen. *Comments for: Rivals, I., and Personnaz L. (2000). Construction of confidence intervals for neural networks based on least squares estimation, Neural Networks, 13, 463-484*. Neural Networks **15**(1): 141-142(2002).

38. J. Larsen, A. Szymkowiak and L.K. Hansen. *Probabilistic Hierarchical Clustering with Labeled and Unlabeled Data*. International Journal of Knowledge-Based Intelligent Engineering Systems **6**(1): 56-62 (2002).

39. P.A.d.F.R. Højen-Sørensen, O. Winther, and L.K. Hansen. *Mean Field Approaches for Independent Component Analysis* Neural Computation **14**: 889-918 (2002).

40. J. Larsen, L.K. Hansen, A. Szymkowiak, T. Christiansen and T. Kolenda. *Webmining: Learning from the World Wide Web*. Computational Statistics and Data Analysis, **38**:517-532 (2002).

41. U. Kjems, L.K. Hansen, J. Anderson, S. Frutiger, S. Muley, J. Sidtis, D. Rottenberg, and S.C. Strother. *The Quantitative Evaluation of Functional Neuroimaging Experiments: Mutual Information Learning Curves.* NeuroImage **15**(4): 772-786 (2002).

42. S.C. Strother, J. Anderson, L.K. Hansen, U. Kjems, R. Kustra, J. Sidtis, S. Frutiger, S. Muley, S. LaConte, and D. Rottenberg. *The Quantitative Evaluation of Functional Neuroimaging Experiments: The NPAIRS Data Analysis Framework*. NeuroImage **15**(4):747-771 (2002). .

43. O.B. Paulson, P. Born, C. Bundesen, A. Gade, C. Gerlach, L.K. Hansen, S. Holm, M. Jensen, S. Kyllingsbæk, A. Larsen, I. Law, E. Rostrup, C. Svarer: *Den arbejdende hjerne - hvordan kan den se ud?*. Ugeskrift for læger, vol. 164:2267-2275 (2002, Danish).

44. P.A.d.F.R. Højen-Sørensen, O. Winther and L.K. Hansen. *Analysis of Functional Neuroimages Using ICA Adaptive Binary Sources*. Neurocomputing **49**, 213-225 (2002).

45. D. Balslev, F.Å. Nielsen, S.A. Frutiger, J.J. Sidtis, T.B. Christiansen, C. Svarer, S.C. Strother, D.A. Rottenberg, L.K. Hansen, O.B. Paulson, I. Law *Cluster analysis of activity-time series in motor learning* Human Brain Mapping, vol. 15(3), pp. 135-145, (2002)

46. A.C.N. Chen, F.AA. Nielsen, L.K. Hansen: *Neuroimaging of human pain and virtual reality modelling*. Advances in Clinical Neurophysiology, vol. 54:163-169 (2002).

47. I.K. Andersen, A.S. Have, C.E. Rasmussen, L. Hansson, J.R. Marstrand, H.B. Larsson, L.K. Hansen: *Perfusion Quantification Using Gaussian Process Deconvolution*. Magnetic Resonance in Medicine, vol. 48(2), pp. 351-361 (2002)

48. L.S. LaConte, D. Rottenberg, S. Strother, J. Anderson, S. Muley, J. Ashe, S. Frutiger, K. Rehm, L.K. Hansen, E. Yacoub, X. Hu: *The Evaluation of Preprocessing Choices in Single-Subject BOLD fMRI Using NPAIRS Performance Metrics*. NeuroImage, **18** pp. 10-27, (2003)

49. M. McKeown, L.K. Hansen, and T.J. Sejnowski: Independent Component Analysis for fMRI: What is Signal and What is Noise? Current Opinion in Neurobiology **13**(5) 620-629 (2003).

50. M. Gniadecka, P.A. Philipsen, S. Sigurdsson, S. Wessel, O.F. Nielsen, D.H. Christensen, J. Hercogova, K. Rossen, H.K. Thomsen, R. Gniadecki, L.K. Hansen, H.C. Wulf: *Malignant Melanoma Diagnosis by Raman Spectroscopy and Neural Network: Structure Alterations in Proteins and Lipids in Intact Cancer Tissue*. Journal of Investigative Dermatology **122**:443-449 (2004).

51. S. Sigurdsson, P.A. Philipsen, L.K. Hansen, J. Larsen, M. Gniadecka, and H.C. Wulf: *Detection of Skin Cancer by Classification of Raman Spectra*. IEEE transactions on Biomedical Engineering **51**(10): 1784-1793 (2004).

52. F.AA. Nielsen, L.K. Hansen, *Finding related functional neuroimaging volumes*. Artificial Intelligence in Medicine **30**(2) 141-151 (2004).

53. F. Calamante, M. Mørup, L. K. Hansen: *Defining a Local Arterial Input Function for Perfusion MRI Using Independent Component Analysis*. Magnetic Resonance in Medicine **52** 789-797 (2004).

54. F.Å. Nielsen, L.K. Hansen, D. Balslev: *Mining for associations between text and brain activation in a functional neuroimaging database* Neuroinformatics, **2**(4), 369-380, (2004).

55. S.C. Strother, S. La Conte, L.K. Hansen, J. Anderson, J. Zhang, S. Pulapura and D. Rottenberg: *Optimizing the fMRI data-processing pipeline using prediction and reproducibility performance metrics: I. A preliminary group analysis*. NeuroImage **23**(S1), S196-S207 (2004).

56. K.B. Petersen, O. Winther, and L.K. Hansen: *On the slow convergence of EM and VBEM in low noise linear mixtures*. Neural Computation **17**(9) 1921-1926 (2005).

57. F.Å. Nielsen, D. Balslev, L.K. Hansen: *Mining the posterior cingulate: Segregation between memory and pain components*, NeuroImage, **27** 520-532 (2005).

58. T. Grotkjær, O. Winther, B. Regenberg, J. Nielsen, L.K. Hansen: *Robust multi-scale clustering of large DNA microarray datasets with the consensus algorithm*. Bioinformatics **22** 58-67 (2006).

59. M. Mørup, L.K. Hansen, C.S. Hermann, J. Parnas, S.M. Arnfred: *Parallel Factor Analysis as an exploratory tool for wavelet transformed event-related EEG*. NeuroImage **29**(3) 938-947 (2006).

60. F.Å. Nielsen, M.S. Christensen, K.M. Madsen, T.E. Lund, and L.K. Hansen: *fMRI Neuroinformatics*. IEEE Engineering in Medicine and Biology Magazine **25**(2), 112-119 (2006).

61. R.K. Olsson and L.K. Hansen: *Linear State-space Models for Blind Source, Journal of Machine Learning Research*, **7**, 2585-2602, (2006).

62. B. Regenberg, T. Grotkjær, O. Winther, A. Fausbøll, M. Aakesson, C. Bro, L.K. Hansen, S. Brunak, J. Nielsen: *Growth-rate regulated genes have profound impact on interpretation of transcriptome profiling in Saccharomyces cerevisiae* Genome Biology, **7**, R107, (2006).

63. Dyrholm, M., S. Makeig , L.K. Hansen: *Convolutive ICA for Spatio-Temporal Analysis of EEG*, Neural Computation **19**(4): 934-955 (2007).

64. S.M. Arnfred, L.K. Hansen, J. Parnas, J., M. Mørup: *Proprioceptive Evoked Gamma Oscillations* Brain Research, **1147** 167-174 (2007).

65. A.S Lukic, M.N. Wernick, Y. Yang, L.K. Hansen, K. Arfanakis, S.C. Strother: *Effect of Spatial Alignment Transformations in PCA and ICA of Functional Neuroimages* IEEE Transactions on Medical Imaging, **26** 1058-1068 (2007).

66. M. Mørup, L.K. Hansen, S.M. Arnfred: *ERPWAVELAB A toolbox for multi-channel analysis of time-frequency transformed event related potentials*. Journal of Neuroscience Methods **161**(2): 361-368 (2007).

67. L.K. Hansen: *Multivariate strategies in functional magnetic resonance imaging*. Brain and Language, **102**(2): 186-191(2007).

68. A. Meng, P. Ahrendt, J. Larsen, L.K. Hansen: *Temporal Feature Integration for Music Genre Classification*. IEEE Transactions on Audio and Speech and Language Processing **15**(5): 1654-1664 (2007).

69. S. Lehmann, L.K. Hansen:*Deterministic modularity optimization* European Physical Journal B **60**(1) 83-88 (2007).

70. D.J. Jacobsen, L.K. Hansen and K.H. Madsen: *Bayesian model comparison in non-linear BOLD fMRI hemodynamics*. Neural Computation, **20** 738-755 (2008).

71. A.B. Nielsen, L.K. Hansen: *Structure Learning by Pruning in Independent Component Analysis*. Neurocomputing, **71** 2281-2290 (2008).

72. M. Mørup, L.K. Hansen, S.M. Arnfred: *Algorithms for Sparse Non-negative Tucker decompositions*. Neural Computation, **20** 2112-2131 (2008).

73. T.B. Dyrby, E. Rostrup, W.F.C. Baare, E. van Straaten, F. Barkhof, H. Vrenken, S. Ropele, R. Schmidt, T. Erkinjuntti, L.-O. Wahlund, L. Pantoni, D. Inzitari, O.B. Paulson, L.K. Hansen, G. Waldemar: *Segmentation of Age-Related White Matter Changes in a Clinical Multi-centre Study*, NeuroImage **41**(2):335-345 (2008).

74. S.M. Arnfred, L.K. Hansen, J. Parnas, M. Mørup: *Regularity Increases Middle-latency Evoked and Late Induced Beta Brain Response Following Proprioceptive Stimulation*. Brain Research, **1218** 114-131 (2008).

75. H. Laurberg, M.G. Christensen, M. Plumbley, L.K. Hansen and S.H. Jensen. *Theorems on positive data: On the Uniqueness of NMF*. Computational Intelligence and Neuroscience Article ID 764206 (2008).

76. S. Lehmann, M. Schwartz, L.K. Hansen. *Biclique communities.* Physical Review **E 78**(1) Article Number: 016108 (2008).
77. T. Beierholm, A.H. Nuttall, L.K. Hansen. *Use and Subtleties of Saddlepoint Approximation for Minimum Mean-Square Error Estimation*. IEEE Transactions on Information Theory **54**(12): 5778-5787 (2008).
78. T. Adali, Z.J. Wang, M.J. McKeown, V. Calhoun, L.K. Hansen: *Introduction to the Issue on fMRI Analysis for Human Brain Mapping*. IEEE Jour. of Selected Topics in Signal Processing **2**(6):813-816 (2008).
79. M. Mørup, L.K. Hansen. *Automatic relevance determination for multi-way models*. Journal of Chemometrics. **23**(7-8):352-363 (2009).
80. Robin de Nijs, Maria J. Miranda, L.K. Hansen, L.G. Hanson: *Motion correction of single-voxel spectroscopy by independent component analysis applied to spectra from nonanesthetized pediatric subjects* Magnetic Resonance in Medicine **62**(5):1147-1154 (2009).
81. T.J. Abrahamsen · L.K. Hansen: *Regularized Pre-Image Estimation for Kernel PCA De-Noising. Input space regularization and sparse reconstruction* Journal of Signal Processing Systems, **65**(3):403-412 (2011).
82. C. Stahlhut, M. Mørup, O. Winther, L.K. Hansen. *Simultaneous EEG Source and Forward Model Reconstruction (SOFOMORE) using a Hierarchical Bayesian Approach*. Journal of Signal Processing Systems, **65**(3):431-444 (2011).
83. P. Mondrup Rasmussen, K.H. Madsen, T.E. Lund, L.K. Hansen. *Visualization of nonlinear kernel models in neuroimaging by sensitivity maps* NeuroImage **55**(3):1120-1131 (2011).
84. T.J. Abrahamsen and L.K. Hansen. *A Cure for Variance Inflation in High Dimensional Kernel Principal Component Analysis*. Journal of Machine Learning Research **12**:2027-2044 (2011).
85. T.J. Abrahamsen and L.K. Hansen. *Sparse non-linear denoising: Generalization performance and pattern reproducibility in functional MRI*. Pattern Recognition Letters **32**(15):2080-2085 (2011).
86. P. Mondrup Rasmussen, L.K. Hansen, K.H. Madsen, N.W. Churchill, S.C. Strother. *Model sparsity and brain pattern interpretation of classification models in neuroimaging*. Pattern Recognition **45**(6):2085-2100 (2012).
87. M. Mørup, L.K. Hansen. *Archetypal analysis for machine learning and data mining*. Neurocomputing 80:54-63 (2012)
88. P.M. Rasmussen, T.J. Abrahamsen, K.H. Madsen, L.K. Hansen. *Nonlinear denoising and analysis of neuroimages with kernel principal component analysis and pre-image estimation*. NeuroImage **60**(3):1807-1818 (2012).
89. K.W. Jørgensen, L.K. Hansen. *Model Selection for Gaussian Kernel PCA Denoising*. IEEE Transactions on Neural Networks and Learning Systems **23**(1):163-168 (2012).

- **Book chapters**

90. J. Larsen, C. Svarer, L. Nonboe Andersen and L.K. Hansen: *Adaptive Regularization in Neural Network Modeling* in "The Book of Tricks", Eds. Klaus Robert Müller et al., Lecture Notes in Computer Science 1524, Germany: Springer-Verlag, (1998).
91. J.A. Jensen, O.T. Andersen, J.E. Wilhjelm, B. Kofoed and L.K. Hansen: *Biomedical Engineering at the Technical University of Denmark* In: Dansk Medikoteknisk Forening - 25'th Anniversary Celebration Book. pp. 51-60. (1998)
92. L.K. Hansen, J. Larsen and T. Kolenda: *On Independent Component Analysis for Multimedia Signals* To appear in L. Guan, S.Y. Kung and J. Larsen (eds.) Multimedia Image and Video Processing, CRC Press (2000).
93. L.K. Hansen: *Blind Separation of Noisy Image Mixtures*. In "Advances in Independent Component Analysis", Perspectives in Neural Computing, Springer-Verlag p. 165-187 (2000).
94. T. Kolenda and L.K. Hansen: *Independent Components in Text*. In "Advances in Independent Component Analysis", Perspectives in Neural Computing, Springer-Verlag p. 237-259 (2000).

95. L.K. Hansen: *Thinking Machines - Thinking Images*. In 'Festskrift i anledning af Olaf B. Paulson's 60 års fødselsdag'. Eds. G.M. Knudsen et al., 34-43 (2000).
96. M. Hintz-Madsen, L.K. Hansen, J. Larsen, and K.T. Drzewicki: *A Probabilistic Neural Network Framework for Detection of Malignant Melanoma*. In R.N.G. Naguib and G.V. Sherbet (eds.) Artificial Neural Networks in Cancer Diagnosis, Prognosis and Patient Management, CRC Press, ISBN 0-8493-9692-1, Chap. **13**: 141-183, (2001).
97. L.K. Hansen, A. Purushotham, and S.G. Kim. *Testing competing hypotheses about single trial fMRI* Explorative methods in Neuroimaging (Ed.) F. Sommer, MIT Publishing Co., Chap **3**: 49-62 (2003).
98. L.K. Hansen *Networking real and virtual brains*. Bridging from technology to society, pp. 166-175, Technical University of Denmark (2004).
99. L.K. Hansen: *On Bayesian Transduction - Implications for the Covariate Shift Problem* In J. Quinonero Candela, M. Sugiyama, A. Schwaighofer and N.D. Lawrence (eds) (2009) *Dataset shift in machine learning*, MIT Press, (2009).
100. J.E. Larsen, S. Halling, M. Sigurdsson and L.K. Hansen: *MuZeeker - Adapting a music search engine for mobile phones*. To appear in Springer Lecture Notes in Computer Science 'Mobile Multimedia Processing: Fundamentals, Methods, and Applications', Selected papers from First International Workshop on Mobile Multimedia Processing, Tampa, USA. (2010).
101. B. Wilkowski, M. Szewczyk, P.M. Rasmussen, L.K. Hansen, F.A. Nielsen: *BredeQuery: Coordinate-Based Meta-analytic Search of Neuroscientific Literature from the SPM Environment.* In Biomedical Engineering Systems and Technologies: International Joint Conference, BIOSTEC 2009, Porto, Portugal, January 14-17, 2009, Revised Selected Papers, pp. 314-324, Springer-Verlag New York Inc (2010).

- **Full conference papers**

102. D. Baeriswyl and L.K. Hansen, *Non-Local Forces in Charge-Density Wave Systems*. Springer Lecture Notes in Physics **217**, 149, (1985).
103. K. Demandt and L.K. Hansen: *Real-time X-ray System with Fully Automatic Defect Detection and Quality Classification*. In "X-ray Real-time Radiography and Image processing", 96-125, (The British Institute of Non- Destructive Testing, London, 1989).
Reprint in: *Status for Industriel Anvendelse af Vision, Belyst ved Eksempler*. Dansk Billedbehandlingskonsortium, Kompendium Visiondag AUC 1989 (1989).
104. L.K. Hansen and P. Salamon, *On Collective Decisions of Neural Network Ensembles*. Proceedings of "Symposium on Applied Statistics Ed. Jannik Godt, UNI.C Copenhagen, 327-41 (1990).
105. P. Salamon and L.K. Hansen: *Predicting the Performance of Neural Network Ensembles*. Proceedings of '8'th International Congress of Cybernetics and Systems', (Ed. C.N.Manikopoulos), New Jersey Institute of Technology Press, 9-15, (1992).
106. L.K. Hansen, C. Liisberg, and P. Salamon: *Ensemble Methods for Recognition of Handwritten Digits*. In 'Neural Networks For Signal Processing'; Proceedings of the 1992 IEEE-SP Workshop, (Eds. S.Y. Kung, F. Fallside, J. Aa. Sørensen, and C.A. Kamm), IEEE Service Center, Piscataway NJ, 540-549, (1992).
107. L.K. Hansen: *Boltzmann Learning of Parameters in Bayes Visual Reconstruction*. Proceedings of the First Danish Conference on Pattern Recognition and Image Analysis. Ed.: S.I.Olsen. Department of Computer Science, University of Copenhagen, 92/8,21-26 (1992).
108. L.K. Hansen: *Boltzmann Learning of Parameters in Cellular Neural Networks*. Proceedings of Second Int. Workshop on Cellular Neural Networks and Applications CNNA'92, Munich (1992). IEEE Service Center, Piscataway NJ, 62-67, (1992).
109. C. Svarer, L.K. Hansen, and J. Larsen: *On Design and Evaluation of Time-Delay Neural Network Architectures*. The 1993 IEEE Int. Conference on Neural Networks, San Francisco. Eds. H.R. Berenji et al., p 45-51, (1993)

110. C. Svarer, L.K. Hansen, J. Larsen, and C.E. Rasmussen: *Designer Networks for Time Series Processing*. The 1993 IEEE Workshop on Neural Networks for Signal Processing (NNSP'93) Baltimore. Eds. C.A. Kamm et al., 78-87, (1993).

111. L.K. Hansen and M. With Petersen: *Controlled Growth of Cascade Correlation Nets*. Proceedings of ICANN'94 International Conference on Neural Networks, Sorrento, Italy, 1994. Eds. M. Marinaro and P.G. Morasso, 797-800, (1994).

112. L. K. Hansen, C. E. Rasmussen, C. Svarer, and J. Larsen : *Adaptive Regularization*. "Neural Networks for Signal Processing IV" Proceedings of the IEEE Workshop, Eds. J. Vlontzos et al., IEEE Service Center, Piscataway NJ, pp. 78-87, (1994)

113. S. von Spreckelsen, P. Grumstup, J. Johnsen, and L.K. Hansen: *Modeling of Glaucoma Induced Changes in the Retina and Neural Net Assisted Diagnosis.* "Neural Networks for Signal Processing IV" Proceedings of the IEEE Workshop, Eds. J. Vlontzos et al., IEEE Service Center, Piscataway NJ pp. 490-498, (1994)

114. T. Fog, L. Hupfeldt Nielsen, L.K. Hansen, S. Holm, I. Law, C. Svarer, O. Paulson: *Neural Estimation of Kinetic Rate Constant from Dynamic PET Scans*. "Neural Networks for Signal Processing IV" Proceedings of the IEEE Workshop, Eds. J. Vlontzos et al., IEEE Service Center, Piscataway NJ, pp. 616-623, (1994)

115. J. Larsen and L.K. Hansen: *Generalization Performance of Regularized Neural Network Models.* "Neural Networks for Signal Processing IV" Proceedings of the IEEE Workshop, Eds. J. Vlontzos et al., IEEE Service Center, Piscataway NJ, pp. 42-51, (1994)

116. C. Linneberg, P. Salamon, C. Svarer, L.K. Hansen, and J. Meyrowitsch: *Towards Automatic Seemen Quality Assessment*. "Neural Networks for Signal Processing IV" Proceedings of the IEEE Workshop, Eds. J. Vlontzos et al., IEEE Service Center, Piscataway NJ, pp. 509-511, (1994).

117. Morten With Pedersen and Lars Kai Hansen "Recurrent Networks: Second Order Properties and Pruning" in Advances in Neural Information Processing Systems 7, 1995, pp. 673–680

118. Benny Lautrup, Lars Kai Hansen, Ian Law, Niels Mørch, Claus Svarer, and Stephen C. Strother: *Massive Weight Sharing: A cure for Extremely Ill-posed Problems* Workshop on Supercomputing in Brain Research: From Tomography to Neural Networks, HLRZ, November 21-23, pp 137-144, (1994).

119. T.L. Fog, J. Larsen and L.K. Hansen: *Training and Evaluation of Neural Networks for Multi-Variate Time Series Processing* in Proceedings of 1995 IEEE International Conference on Neural Networks, Perth, Australia, Nov. 27–Dec. 1, vol. 2, pp. 1194-1199 (1995).

120. N.J.S. Mørch, U. Kjems, L.K. Hansen, C. Svarer, I. Law, B. Lautrup, and S. Strother: *Visualization of Neural Networks Using Saliency Maps*. in Proceedings of 1995 IEEE International Conference on Neural Networks, Perth, Australia, Nov. 27–Dec. 1, vol. 2, pp.2085-2090 (1995).

121. J. Larsen and L.K. Hansen: *Empirical Generalization Assessment of Neural Network Models* in F. Girosi, J. Makhoul, E. Manolakos and E. Wilson (eds.), Proceedings of the IEEE Workshop on Neural Networks for Signal Processing V, Piscataway, New Jersey: IEEE, 1995, pp. 30–39.

122. M. Hintz-Madsen, L.K. Hansen, J. Larsen, E. Olesen and K.T. Drzewiecki: *Design and Evaluation of Neural Classifiers Application to Skin Lesion Classification* in F. Girosi, J. Makhoul, E. Manolakos and E. Wilson (eds.). Proceedings of the IEEE Workshop on Neural Networks for Signal Processing V, Piscataway, New Jersey: IEEE, 1995, pp. 484–493.

123. Blackburn, Nicholas; Hagstroem, Åke; Hygum, Bent; Koefoed Sørensen, Peter; Massana, Ramon; Pedros-Alio, Carlos; Svarer, Claus; Hansen. Lars Kai; Hietanen, Susanna; Kuparinen, Jorma; *DIADEME: Digital Image Analysis Development in European Marine Ecology* Proceedings of MARINE SCIENCES AND TECHNOLOGIES. Second MAST days and Euromar market -1995- vol II 1409-1424. European Commission 1995.

124. C. Svarer, I. Law, S. Holm, N.J.S. Mørch, O. Paulson, L.K. Hansen, And T. Fog: *Estimation of the Glucose Metabolism from Dynamic PET-scans using Neural Networks*. in F. Girosi, J. Makhoul, E. Manolakos and E. Wilson (eds.). Proceedings of the IEEE Workshop on Neural Networks for Signal Processing V, Piscataway, New Jersey: IEEE, 1995, pp. 439-448.

125. Peter Alshede Philipsen, Lars Kai Hansen and Peter Toft: *Mean Field Reconstruction with Snaky Edge Hints*. Proceedings of the Interdisciplinary Inversion Conference on Methodology, Computation and Integrated Applications (IIC'95). Springer Verlag, pp 312-319, (1996).

126. Peter Alshede Philipsen, L. K. Hansen, and Peter Toft *Mean Field Reconstruction with Snaky Edge Hints* Proceedings of the Fourth Danish Conference on Patterns Recognition and Image Processing. Computer Science University of Copenhagen pp 155-161 (1995).

127. L.N. Andersen and L.K. Hansen: *Parameter Estimation in Inhomogeneous Markov Fields*. Proceedings of the Fourth Danish Conference on Patterns Recognition and Image Processing. Computer Science University of Copenhagen (1995).

128. H. Klebæk, J.A. Jensen, and L.K. Hansen: *Neural Networks for Sonogram Gap Filling*. in Proceedings of the 1995 IEEE International Ultrasonics Symposium (UFFC'95), Seattle, vol 2.pp 1553-1556, 1995

129. C. Svarer, I. Law, S. Holm, N. Morch, S. Hasselbalch, L.K. Hansen, and O.B. Paulson: *An Artificial Neural Net Approach to Estimation of the Glucose Metabolism Using PET*. In Quantification of Brain Function Using PET, Eds R. Myers, V. Cunningham, D. Bailey, and T. Jones. Academic Press, Chapter 53, p 271-276. (1996)

130. S.C. Strother, J.J. Sidtis, J.R. Anderson, L.K. Hansen, K. Schaper, and D.A. Rottenberg: *15-O Water PET: More "Noise" than signal?* In Quantification of Brain Function Using PET, Eds R. Myers, V. Cunningham, D. Bailey, and T. Jones. Academic Press, Chapter 73, p 378-383. (1996).

131. J.E. Wilhjelm, K. Rosendahl, M-L.M. Grønholdt, S.K Jespersen, L.K. Hansen, and H. Sillesen: *Digital Image Analysis of Ultrasound B-mode images of Carotid Atherosclerotic Plaque*. In Proceedings of the 10'th Nordic-Baltic Conference on Biomedical Engineering Tampere, Finland, June 9-13, 1996.

132. S.K Jespersen, M-L.M. Grønholdt, J.E. Wilhjelm, B. Wiebe, L.K. Hansen, H. Sillesen, and K. Rosendahl: *Correlation Between Ultrasound B-Mode IMages Of Carotid Plaque and Histological Examination*. In proceedings of the IEEE 1996 International Ultrasonic Symposium, San Antonio, Texas, November 3-6, 1996.

133. L.K. Hansen, L.N. Andersen, U. Kjems and J. Larsen: *Revisiting Bolzmann Learning: Parameter Estimation in Markov Fields* in Proceedings of IEEE ICASSP-96, Atlanta, GA, vol. 6, pp. 3395-3398, 1996.

134. M.W. Pedersen, L.K. Hansen and J. Larsen: *Pruning with Generalization Based Weight Saliencies: γ-OBD, γ-OBS* In D.S. Touretzky, M.C. Mozer and M.E. Hasselmo (eds.) Advances in Neural Information Processing Systems 8, Proceedings of the 1995 Conference, Cambridge, Massachusetts: MIT Press, pp. 521-528, 1996.

135. P. Sørensen, M. Nørgård, L.K. Hansen and J. Larsen: *Cross-Validation with LULOO* in Proceedings of 1996 International Conference on Neural Information Processing, ICONIP'96, Hong Kong, Sept. 24-27, (Eds. S.I. Amari, L.-W. Chan, I. King, K.-S. Leung). Vol. 2, 1305-1310, 1996.

136. J. Larsen, L.K. Hansen, C. Svarer and M. Ohlsson: *Design and Regularization of Neural Networks: The Optimal Use of a Validation Set* in Proceedings of Neural Networks for Signal Processing VI, IEEE Press, NJ, Eds. S Usui et al., IEEE Piscataway, New Jersey, 62-71, 1996.

137. M. Hintz-Madsen, M.W. Pedersen, L.K. Hansen and J. Larsen: *Design and Evaluation of Neural Network Classifiers* in Proceedings of Neural Networks for Signal Processing VI, IEEE Press, NJ, 1996.

138. M. Hintz-Madsen, L.K. Hansen, J. Larsen, E. Olesen and K.T. Drzewiecki: *Detection of Malignant Melanoma using Neural Classifiers* in A.B. Bulsari, S. Kallio and D. Tsaptsinos (eds.), Solving Engineering Problems with Neural Networks, Proceedings of EANN'96, London, UK, June 17–19, pp. 395-398, 1996.

139. L.K. Hansen and J. Larsen: *Unsupervised Learning and Generalization* in Proceedings of IEEE International Conference on Neural Networks, Washington DC, pp. 25-30, June 1996

140. M. Nørgaard, P.H. Sørensen, N.K. Poulsen, O. Ravn, L.K. Hansen: it Intelligent Predictive Control of Nonlinear Processes Using Neural Networks. Proceedings of the 11th IEEE International Symposium on Intelligent Control (ISIC), Dearborn, Michigan, USA, 301-306, 1996

141. M. Nørgaard, O. Ravn, N.K. Poulsen, L.K.Ḣansen: *NNCTRL - A CANCSD ToolKit for MATLAB*. Proceedings of the 1996 IEEE Symposium on Computer-Aided Control System Design, Dearborn, Michigan, USA, 368-373, 1996.

142. M. Nørgaard, O. Ravn, L.K. Hansen, N.K. Poulsen: *The NNSYSID Toolbox - A MATLAB Toolbox for System Identification with Neural Networks*. Proceedings of the 1996 IEEE Symposium on Computer-Aided Control System Design, Dearborn, Michigan, USA, 374-379, 1996.

143. P. Toft, P. Alshede Philipsen, L. K. Hansen, and U. Kjems: *Brain Mapping by Positron Emission Tomography* in Proceedings of the Interdisciplinary inversion Workshop 4, Lyngby 1996. Ed. P.C. Hansen. Dept. Mathematical Modelling, Technical University of Denmark ISBN 87-88306-24-0 p.39-48 (1997).

144. U. Kjems, P. Alshede Philipsen, L. K. Hansen, and Chin-Tu Chen: *A Non-linear 3D Brain Co-registration Method* in Proceedings of the Interdisciplinary inversion Workshop 4, Lyngby 1996. Ed. P.C. Hansen. Dept. Mathematical Modelling, Technical University of Denmark ISBN 87-88306-24-0 p.49-58 (1997).

145. J. Larsen, L. K. Hansen, and C. Svarer: *Regularization of Neural Networks* in Proceedings of the Interdisciplinary inversion Workshop 4, Lyngby 1996. Ed. P.C. Hansen. Dept. Mathematical Modelling, Technical University of Denmark ISBN 87-88306-24-0 p.59-66 (1997).

146. L. Nonboe Andersen, J. Larsen, L.K. Hansen and M. Hintz-Madsen: *Adaptive Regularization of Neural Classifiers* Neural Networks for Signal Processing VII - Proceedings of the 1997 IEEE Workshop (Florida), September 1997, pp. 24-33.

147. L.K. Hansen, J. Larsen, and T. Fog: *Early Stop Criterio from the Bootstrap Ensemble*. in Proceedings of IEEE Proceedings of ICASSP'97, vol. 4, pp. 3205-3208, Munich, Germany, April 1997.

148. N. Morch, L.K. Hansen, S.C. Strother, C. Svarer, D.A. Rottenberg, B. Lautrup, R. Savoy, O.B. Paulson: *Nonlinear versus Linear Models in Functional Neuroimaging: Learning Curves and Generalization Crossover*. Proceedings of the 15th International Conference on Information Processing in Medical Imaging, 1997, Eds. J. Duncan and G. Gindi. Lecture Notes in Computer Science **1230**, Springer Verlag 259-270, 1997.

149. F.Å. Nielsen and L.K. Hansen. *Interactive Information Visualization in Neuroimaging*. NPIVM'97 - Workshop on New Paradigms in Information Visualization and Manipulation. David S. Ebert, Charles K. Nicholas (eds.) ACM ISBN 1-58113-051-1. (1997)

150. J. Larsen, L.N. Andersen, M. Hintz-Madsen and L.K. Hansen *Design of Robust Neural Network Classifiers* in Proceedings of ICASSP'98, vol. 2, pp. 1205-1208, Seattle, USA, (1998).

151. J.A. Benediktsson, J. Larsen, J.R. Sveinsson, and L.K. Hansen: *Optimized Combination, Regularization, and Pruning in Parallel Consensual Neural Networks* in Proceedings of European Symposium on Remote Sensing, Barcelona, Spain (1998).

152. L.K. Hansen, N. Mørch, and F.Å. Nielsen: *Neural Net in Functional Neuroimaging*. Tutorial Paper for NORSIG'98. In Proceedings of the IEEE Nordic Signal Processing Symposium, Vigsø, Denmark 1998. Eds. P. Dalsgaard and S.H. Jensen, pp. 1-8, (1998).

153. L.K. Hansen and J. Larsen: *Source Separation in Short Image Sequences using Delayed Correlaation* In Proceedings of the IEEE Nordic Signal Processing Symposium, Vigsø, Denmark 1998. Eds. P. Dalsgaard and S.H. Jensen, pp. 253-256, (1998)

154. L.N. Andersen, W. Au, J. Larsen, L.K. Hansen: *Sonar discrimination of cylinders from different angles using neural networks* in Proceedings of IEEE ICASSP'99, Phoenix, AZ, March 15-19, vol. 2, pp. 1121-1124, (1999).

155. T.L. Fog, L.K. Hansen, J. Larsen, H.S. Hansen, L.B. Madsen, P. Sørensen, E.R. Hansen and P.S. Pedersen: *On Condition Monitoring of Exhaust Values in Marine Diesel Engines* in Y.H. Hu, J. Larsen, E. Wilson, S. Douglas (eds.) Proceedings of the IEEE Workshop on Neural Networks for Signal Processing IX, Piscataway, New Jersey: IEEE, pp. 554-563, (1999).

156. L.N. Andersen, W. Au, J. Larsen, L.K. Hansen: *Discrimination of Cylinders with Different Wall Thicknesses using Neural Networks and Simulated Dolphin Sonar Signals* in Y.H. Hu, J. Larsen, E. Wilson, S. Douglas (eds.) Proceedings of the IEEE Workshop on Neural Networks for Signal Processing IX, Piscataway, New Jersey: IEEE, pp. 477-486, (1999).

157. P.A. Philipsen and L.K. Hansen: PET Reconstruction with a Markov Random Field Prior. Proceedings of Brain-PET'99, To appear, (2000).

158. P.A.d.F.R. Højen-Sørensen, L.K. Hansen and C.E. Rasmussen: *Bayesian Modelling of fMRI Time Series* In S.S. Solla et al. (eds.) Proceedings of NIPS∗99, Denver, November 29 - December 4, 1999, 754-760 (2000).

159. Lars Kai Hansen: *Bayesian Averaging is Well-Temperated* In S.S. Solla et al. (eds.) Proceedings of NIPS∗99, Denver, November 29 - December 4, 1999, 265-271 (2000).

160. F.Å. Nielsen and L.K. Hansen: *Experiences with Matlab and VRML in Functional Neuroimaging Visualizations*, In Proceedings of Visualization Development Environment (VDE2000) Princeton Plasma Physics Laboratory, Princeton, New Jersey, USA, 2000 April 27-28.

161. L.K. Hansen, S. Sigurdsson, T. Kolenda, F.Å. Nielsen, U. Kjems and J. Larsen: *Modeling Text with Generalizable Gaussian Mixtures* in proceedings of IEEE ICASSP'2000, Istanbul, Turkey, June 5-9, 2000, vol. VI, pp. 3494-3497. (2000)

162. P.A.d.F.R. Højen-Sørensen, O. Winther and L.K. Hansen *Ensemble Learning and Linear Response Theory for ICA* Advances in Neural Information Processing Systems 13 (NIPS*2000) (2000).

163. Kjems U., Hansen LK., Strother SC. *Generalizable Singular Value Composition of Ill-posed Datasets.* In proc. of Advances in Neural Information Processing Systems 13 (NIPS∗2000) Eds. Leen T.K., Dietterich T.G., Tresp V., Cambridge, MA: MIT Press. 13:549-555 (2001).

164. K. Petersen, L.K. Hansen, T. Kolenda, E. Rostrup, S. Strother. *On the Independent Components of Functional Neuroimages*. In Proceedings of ICA-2000. Eds. P. Pajunen and J Karhunen, 615-620 (2000).

165. J. Larsen, L.K. Hansen, A. Szymkowiak, T. Christiansen and T. Kolenda. *Web-mining: Learning from the World Wide Web*. Invited contribution for Proceedings of Nonlinear Methods and Data Mining 2000, Rome, Italy, Sept. 25-26, 106-125 (2000)

166. T. Kolenda, L.K. Hansen and J. Larsen. *Signal Detection using ICA: Application to Chat Room Topic Spotting*. In proceedings of ICA'2001, San Diego, USA, December 9-13, 2001, pp. 540-545 (2002).

167. A. Szymkowiak, J. Larsen and L.K. Hansen. *Hierarchical Clustering for Datamining*. Special Session on Neural Networks and Datamining in N. Babs, L.C. Jain, R.J. Howlett (eds.) Proc. KES-2001 Fifth International Conference on Knowledge-Based Intelligent Information Engineering Systems & Allied Technologies, Osaka and Nara, Japan, September 6-8, 261-265 (2001).

168. A. Szymkowiak, P.A. Philipsen, J. Larsen, L.K. Hansen, E. Thieden and H.C. Wulf. *Imputating Missing Values in Diary Records of Sun-exposure Study*. In D. Miller, et al. (eds.) Proceedings IEEE Workshop on Neural Networks for Signal Processing XI Falmouth, Massachusetts, Sept. 10-12, 489-498 (2001).

169. J. Hørlyck, J. Larsen, L.K. Hansen, and T. Christiansen. *Are All E-customers Alike?*. In 1st Nordic Workshop on Electronic Commerce, Halmstad, May 28-29, (2001).

170. L.K. Hansen, J. Larsen, T. Kolenda. *Blind Detection of Independent Dynamic Components*. In Proceedings IEEE ICASSP'2001, Salt Lake City, Utah, USA, SAM-P8.10, **5** 3197-3200 (2001).

171. T. Fabricius, P. Kidmose and L.K. Hansen. *Dynamic Components of Linear Stable Mixtures from Fractional Low Order Moments*. In Proceedings of IEEE ICASSP'2001, Salt Lake City, Utah, USA, SAM-P8.10, **5** 3957-3960 (2001).

172. S. Sigurdsson, J. Larsen and L.K. Hansen. *On Comparison of Adaptive Regularization Methods*. In B. Widrow et al. (eds.). Proceedings of the IEEE Workshop on Neural Networks for Signal Processing X, Piscataway, New Jersey: IEEE. Sydney, Australia, Dec. 11-13, 221-230 (2001).

173. P.A.d.F.R. Højen-Sørensen, L.K. Hansen and O. Winther. *Mean Field Implementation of Bayesian ICA* In proceedings of 3rd International Conference on Independent Component Analysis and Blind Signal Separation (ICA2001).

174. S. Sigurdsson, J. Larsen, L.K. Hansen, P.A. Philipsen and H.C. Wulf. *Outlier estimation and detection: Application to Skin Lesion Classification*, accepted for ICASSP'2002, Orlando, Florida, USA, May 13-17, 2002, vol. I, pp. 1049-1052, (2002).

175. T. Kolenda, L.K. Hansen, J. Larsen and O. Winther: *Independent Component Analysis for Understanding Multimedia Content* In H. Bourlard et al. (eds.) Proceedings of IEEE Workshop on Neural Networks for Signal Processing XII Matigny, Valais, Switzerland, Sept. 4-6, 2002, pp. 757-766 (2002).

176. A. Szymkowiak-Have, J. Larsen, L.K. Hansen, P.A. Philipsen, E. Thieden, H.C. Wulf: *Clustering of Sun Exposure Measurements*. In H. Bourlard et al. (eds.) Proceedings of IEEE Workshop on Neural Networks for Signal Processing XII Matigny, Valais, Switzerland, Sept. 4-6, 2002, pp. 727-735 (2002).
177. A.S. Lukic, M.N. Wernick, L.K. Hansen and S.C. Strother: *An ICA Algorithm for Analyzing Multiple Data Sets*. In proc. of IEEE 2002 Int. Conf. on Image Processing (ICIP-2002). M. Tekalp et al. (eds) (2002).
178. A.S. Lukic, M.N. Wernick, L.K. Hansen and S.C. Strother: *Spatially Robust ICA Algorithm for Multiple fMRI Data Sets*. IEEE International Symposium on Biomedical Imaging, (2002).
179. S. Sigurdsson, J. Larsen, L.K. Hansen, P.A. Philipsen, H.C. Wulf, *Outlier estimation and detection: Application to Skin Lesion Classification*. In Proc. International conference on acoustics, speech and signal processing, 1:1049-1052 (2002).
180. J. Quinonero-Candela, L.K. Hansen:*Time Series Prediction Based on the Relevance Vector Machine with Adaptive Kernels*. International Conference on Acoustics, Speech, and Signal Processing, 1:985-988, (2002).
181. Thorkild F. Pedersen and Lars K. Hansen: *Bayesian Multichannel Tracking of Periodic Signals: A New Way to Determine the Running Speed of Mechanical Systems* Proc. Seventh Int. Sym. on signal Processing and its applications PARIS, FRANCE, VOLUME II 511-514 (2003).
182. L.K. Hansen and M., Dyrholm. *A prediction matrix approach to convolutive ICA*. Proceedings of IEEE Workshop on Neural Networks for Signal Processing XIII Toulouse, France, Sept. 17-19, 249-258, IEEE Press, (2003)
183. L.K. Hansen and K.B. Petersen: *Single channel separation of white noise sources is hard* The international conference on blind signal processing ICA 2003 815-820 (Japan).
184. V.D. Calhourn, T. Adali, L.K. Hansen, J. Larsen and J.J. Pekar: *ICA of Functional MRI Data: An Overview*. Invited review paper for Fourth International Symposium on Independent Component Analysis and Blind Source Separation, Nara, Japan, April 1-4, 281-288, (2003).
185. J. Larsen, L.K. Hansen, T. Kolenda and F.A. Nielsen: *Independent Component Analysis in Multimedia Modeling*. Invited review for Fourth International Symposium on Independent Component Analysis and Blind Source Separation, Nara, Japan, April 1-4, 687-696 (2003).
186. M.S. Pedersen, U. Kjems, K.B. Rasmussen, L.K. Hansen: *Semi-blind source separation using head-related transfer functions* Int. Conf. on Acoustics, Speech, and Signal Processing 2004, 713-716, (2004).
187. T. Lehn-Schiøler, L.K. Hansen, J. Larsen, J., *Mapping from Speech to Images Using Continuous State Space Models*. Joint AMI/PASCAL/IM2/M4 Workshop on Multimodal Interaction and Related Machine Learning Algorithms, 2004
188. R.E. Madsen, S. Sigurdsson and L.K. Hansen *Enhanced Context Recognition by Sensitivity Pruned Vocabularies*. ICPR Cambridge, UK, vol. 2, pp. 483-486, (2004).
189. R.E. Madsen, S. Sigurdsson, L.K. Hansen and J. Larsen *Vocabulary Pruning for Improved Context Recognition*. International Joint Conference on Neural Networks, IJCNN, Budapest, Hungary, 80-85, IEEE Press (2004).
190. R.E. Madsen and L.K. Hansen *Part-of-Speech Enhanced Context Recognition*. Proc. Machine learning for signal processing, Brazil, 635-644, IEEE Press (2004).
191. M. Dyrholm, L.K. Hansen. *CICAAR: Convolutive ICA with an Auto-Regressive Inverse Model*. Independent Component Analysis and Blind Signal Separation, vol. 3195, pp. 594-601, Springer, (2004).
192. R.K. Olsson and L.K. Hansen: *Estimating the number of sources in a noisy convolutive mixture using BIC*. 5'th International Conference on Independent Component Analysis and Blind Signal Separation, pp. 618-625, Springer Berlin, (2004).
193. R.K. Olsson and L.K. Hansen: *Probabilistic blind deconvolution of non-stationary sources* EUSIPCO 2004, 12th European Signal Processing Conference, 07.09.2004 - 10.09.2004, Vienna-Austria. 1697-1700 (2004)
194. L.K. Hansen, P. Ahrendt, and J. Larsen, *Towards cognitive component analysis*. In T. Honkela et al. (eds), Proc. Int. Conference on Adaptive Knowledge Representation and Reasoning AKRR'05, 148-153, (2005). **Best paper award.**

195. M. Vester-Christensen, D. Leimberg, B.K. Ersbøll, and L.K. Hansen. *Towards emotion modeling based on gaze dynamics in generic interfaces*. HCI International 11th International Conference on Human-Computer Interaction, Las Vegas, USA, (2005).

196. L. Feng and L.K. Hansen. *On low level cognitive components of speech*. International Conference on Computational Intelligence for Modelling (CIMCA'05), vol. 2, pp. 852-857, (2005).

197. T. Lehn-Schiøler, L.K. Hansen, J. Larsen. *Mapping from Speech to Images Using Continuous State Space Models*. Lecture Notes in Computer Science, vol. 3361, pp. 136 - 145, Springer (2005).

198. R.K. Olsson and L.K. Hansen. *A harmonic excitation state-space approach to blind separation of speech*. Advances in Neural Information Processing Systems, vol. 17, pp. 993-1000, MIT Press, (2005).

199. L.K. Hansen, L. Feng. *Cogito Componentiter Ergo Sum*. ICA2006 - 6th International Conference on Independent Component Analysis and Blind Source Separation, 446 - 453, (2006).

200. L. Feng and L.K. Hansen. *Phonemes as short time cognitive components*. International Conference on Acoustics, Speech and Signal Processing (ICASSP'06) (2006)

201. A.B. Nielsen, L.K. Hansen and U. Kjems. *Pitch Based Sound Classification*. IEEE International Conference on Acoustics, Speech, and Signal Processing, (2006).

202. M. Dyrholm, S. Makeig, L.K. Hansen. *Model structure selection in convolutive mixtures*. 6th International Conference on Independent Component Analysis and Blind Source Separation, (2006)

203. R.K. Olsson and L.K. Hansen. *Blind separation of more sources than sensors in convolutive mixtures*, ICASSP, (2006).

204. T. Bøvith, A.A. Nielsen, L.K. Hansen, R.S. Gill, and S. Overgaard. *Detecting Weather Radar Clutter by Information Fusion With Satellite Images and Numerical Weather Prediction Model Output*. Accepted for IEEE Geoscience and Remote Sensing Symposium (IGARSS) 2006, (2006)

205. T. Bøvith, R.S. Gill, S. Overgaard, L.K. Hansen, A.A. Nielsen: *Detecting weather radar clutter using satellite-based nowcasting products.* Proceedings of the Fourth European Conference on Radar in Meteorology and Hydrology (ERAD) 2006, pp. 153-156, (2006).

206. D. Jacobsen, K.H. Madsen, and L.K. Hansen. *Identification of non-linear models of neural activity in BOLD fMRI*. Proc. 2006 IEEE International Symposium on Biomedical Imaging: From Nano to Macro, (2006).

207. J. Arenas-García, K.B. Petersen, L.K. Hansen: *Sparse kernel orthonormalized PLS for feature extraction in large datasets* NIPS 2006, Vancouver CA (2006).

208. J. Arenas-Garcia, J., Larsen, L.K. Hansen, A. Meng: *Optimal filtering of dynamics in short-time features for music organization* Proc. 7th Intl. Conf. on Music Information Retrieval, ISMIR 2006, pp. 290-295, Victoria, Canada, Oct. (2006).

209. T. Lehn-Schiøler, J. Arenas-García, K.B. Petersen and L.K. Hansen: *A Genre Classification Plug-in for Data Collection*. Proc. 7th Intl. Conf. on Music Information Retrieval, ISMIR 2006, pp. 320-321, Victoria, Canada, Oct. (2006).

210. Hansen, L. K., Madsen, K. H., Lehn-Schiøler, T., Adaptive regularization of noisy linear inverse problems, Eusipco 2006, Florence, Italy, (2006).

211. K.W. Jørgensen, L.L. Mølgaard, L.K. Hansen: *Unsupervised Speaker Change Detection for Broadcast News Segmentation* Eusipco, 2006 Florence, Italy, (2006).

212. L.L. Mølgaard, K.W. Jørgensen, L.K. Hansen, *Castsearch - Context Based Spoken Document Retrieval*. ICASSP, IEEE International Conference on Acoustics, Speech, and Signal Processing, Honolulu, Hawaii, (2007).

213. A.B. Nielsen, S. Sigurdsson, L.K. Hansen, J. Arenas-Garcia: *On the relevance of spectral features for instrument classification* IEEE International Conference on Acoustics, Speech, and Signal Processing, Honolulu, Hawaii, (2007)

214. L. Feng, L.K. Hansen: *Cognitive components of speech at different time scales* In Proc. of CogSci 2007, the International Conference on Cognitive Science, 983-988 (2007).

215. L.K. Hansen, T. Lehn-Schiøler, K.B. Petersen, J. Arenas-Garcia, J. Larsen, and S.H. Jensen: *Learning and clean-up in a large music database*. Accepted for EUSIPCO 2007, European Confence on Signal Processing, Poznan (2007).

216. B. Bodvarsson, L.K. Hansen, C. Svarer, G.M. Knudsen: *NMF on positron emission tomography* In Proc. ICASSP 2007, the IEEE International conference on Acoustics, Speech and Signal Processing, Honolulu, Hawaii (2007).

217. H. Laurberg, L.K. Hansen:*On affine non-negative matrix factorization*. In Proc. ICASSP 2007, the IEEE International conference on Acoustics, Speech and Signal Processing, Honolulu, Hawaii (2007).

218. J. Arenas-García, A. Meng, K.B. Petersen, T.L. Schiøler, L.K. Hansen, J. Larsen:*Unveiling Music Structure Via PLSA Similarity Fusion*. In Proc. IEEE International Workshop on Machine Learning for Signal Processing, IEEE Press 419-424, (2007).

219. M. Mørup, K.H. Madsen, L.K. Hansen:*Shifted Independent Component Analysis* ICA2007, London, 89-96, (2007).

220. M. Mørup, K.H. Madsen, L.K. Hansen: *Shifted Non-negative Matrix Factorization* In Proc. IEEE International Workshop on Machine Learning for Signal Processing, IEEE Press, (2007).

221. Mørup, M., Madsen, K. H., Hansen, L. K., *Approximate L0 constrained Non-negative Matrix and Tensor Factorization*, In Proc. ISCAS 2008, 1328 - 1331, special session on Non-negative Matrix and Tensor Factorization and Related Problems, (2008)

222. P.M. Rasmussen, M. Mørup, L.K. Hansen, S.M. Arnfred: *Model Order Estimation for Independent Component Analysis of Epoched EEG Signals*. In Proc. BIOSIGNALS (2) 3-10 (2008).

223. L. Feng, L.K. Hansen: *On Phonemes as Cognitive Components of Speech*. In Proc. The 1st IAPR Workshop on Cognitive Information Processing, (2008)

224. L. Feng, L.K. Hansen: *Is Cognitive Activity of Speech Based On Statistical Independence?*, In Proc. CogSci 2008 - 30th Annual Meeting of the Cognitive Science Society, (2008)

225. S. Halling, M.K. Sigurdsson, J.E. Larsen, S. Knudsen, L.K. Hansen: *MuZeeker: A domain Specific Wikipedia-based Search Engine*. In Proc. First International Workshop on Mobile Multimedia Processing. Tampa, USA (2008).

226. L. Feng, A.B. Nielsen, L.K. Hansen: *Vocal Segment Classification in Popular Music.* ISMIR 2008 Ninth International Conference on Music Information Retrieval. Drexel Univ. USA, (2008).

227. A.B. Nielsen, L.K. Hansen: *Synchronization and comparison of Lifelog audio recordings* IEEE Workshop on Machine Learning for Signal Processing, MLSP 2008, 474-479, (2008).

228. T. Bjerre, J. Henriksen,C. Nielsen, P.M. Rasmussen, L.K. Hansen, K.H. Madsen: *Unified ICA-SPM analysis of fMRI experiments : Implementation of an ICA graphical user interface for the SPM pipeline*. In proceedings of Biosignals 2009 Proceedings (2009).

229. A. Petersen, S. Kyllingsbæk, L.K. Hansen: *Towards a neural network model of the visual short-term memory.* In A. Howes, D. Peebles, R. Cooper (Eds.), In proceedings 9th International Conference on Cognitive Modeling ICCM2009, Manchester, UK, 354-359 (2009).

230. B. Wilkowski, M. Szewczyk, P.M. Rasmussen, L.K. Hansen, F.Aa. Nielsen *Coordinate based meta-analytic search for the SPM pipeline: The BredeQuery plugin for SPM5*. HEALTHINF 2009 proceedings (2009).

231. M.N. Schmidt, O. Winther, L.K. Hansen: *Bayesian non-negative matrix factorization*. In Proc. Independent Component Analysis and Signal Separation, International Conference on Lecture Notes in Computer Science (LNCS) 5541, 540–547 (2009).

232. C. Stahlhut, M. Mørup, O. Winther, L.K. Hansen: *SOFOMORE: Combined EEG source and forward model reconstruction* In Proc. IEEE International Symposium on Biomedical Imaging: From Nano to Macro ISBI'09, 450 - 453, (2009)

233. M.K. Petersen, M. Morup, L.K. Hansen: *Sparse but emotional decomposition of lyrics* In Proc. LSAS 2009, International workshop on learning semantics of audio signals, Graz, Austria (2009).

234. M.K. Petersen, L.K. Hansen, A. Butkus: *Semantic contours in tracks based on emotional tags* In Proc. Computer Music Modeling and Retrieval: Genesis of Meaning in Sound and Music, Springer Lecture Notes in Computer Science **5493**:45-66 (2009).

235. M. Mørup, L.K. Hansen: *Tuning Pruning in Sparse Non-negative Matrix Factorization*. In Proc. EUSIPCO 2009, 17th European Signal Processing Conference, August 24-28, 2009, Glasgow, Scotland, UK.

236. C. Stahlhut, M. Mørup, O. Winther, L.K. Hansen: *Hierarchical Bayesian Model for simultaneous EEG Source and Forward Model Reconstruction (SOFOMORE)*. In Proc. 2009 IEEE Workshop on Machine Learning for Signal Processing.

237. M. Mørup, L.K. Hansen: *Sparse Coding and Automatic Relevance Determination for Multi-way models*. In Proc. Signal Processing with Adaptive Sparse Structured Representations Spars09 (2009).

238. T.J. Abrahamsen, L.K. Hansen: *Input Space Regularization Stabilizes Pre-Images For Kernel PCA De-Noising*. In Proc. 2009 IEEE Workshop on Machine Learning for Signal Processing, 204-209 (2009).

239. I.J. Cox, R.X. Fu, L.K. Hansen: *Probably Approximately Correct Search* In Proc. 2nd International Conference on Theory of Information Retrieval, Cambridge, ENGLAND. Lecture Notes in Computer Science **5766**:2-16 (2009).

240. B. Wilkowski, M. Szewczyk, P.M. Rasmussen, L.K. Hansen, F.Aa. Nielsen *BredeQuery: Coordinate-Based Meta-analytic Search of Neuroscientific Literature from the SPM Environment* In Proc. Biomedical Engineering Systems and Technologies Communications in Computer and Information Science, 2010, **52**(4):314-324 (2010)

241. I. Cox, J.H. Zhu, R.X. Fu, L.K. Hansen: *Improving Query Correctness Using Centralized Probably Approximately Correct (PAC) Search* In Proc. 32nd European Conference on Information Retrieval Research, Milton Keynes, ENGLAND. Lecture Notes in Computer Science **5993**:265-280 (2010).

242. M.K. Petersen and L.K. Hansen: *Latent semantics as cognitive components* In Proc. 2nd International Workshop on Cognitive Information Processing. Elba Island, Italy (2010).

243. B.S. Jensen, J.E. Larsen, K. Jensen, J. Larsen, L.K. Hansen: *Estimating Human Predictability From Mobile Sensor Data* In Proc. IEEE International Workshop on Machine Learning for Signal Processing MLSP (2010).

244. B.S. Jensen, J.E. Larsen, K. Jensen, J. Larsen, L.K. Hansen: Proc. 21st European Conference on Machine Learning, Mining Ubiquitous and Social Environments Workshop. Barcelona, Spain (2010).

245. C. Stahlhut, H.T. Attias, D. Wipf, L.K. Hansen, S.S. Nagarajan: *Sparse spatio-temporal inference of electromagnetic brain sources*. In Proc. Machine Learning in Medical Imaging (MLMI), Lecture Notes in Computer Science (LNCS) **6357**:157-164 (2010).

246. M. Mørup, L.K. Hansen. *Archetypal Analysis for Machine Learning*. In Proc. IEEE Workshop on Machine Learning for Signal Processing MLSP (2010).

247. M. Mørup, K.H. Madsen, H. Siebner, L.K. Hansen. *Infinite Relational Modeling of Functional Connectivity in Resting State fMRI*, In Proc. Advances in Neural Information Processing Systems (NIPS), Vancouver, CA (2010).

248. L.K. Hansen, S.G. Karadogan, L. Marchegiani. *What to measure next to improve decision making? - On top-down task driven feature saliency.*. 2011 IEEE Symposium on Computational Intelligence, Paris, France. CCMB Cognitive Algorithms, Mind, and Brain pp. 81-87 (2011).

249. L.K. Hansen, A. Arvidsson, F.A. Nielsen, E. Colleoni, M. Etter. *Good Friends, Bad News - Affect and Virality in Twitter.* In Proc. International Workshop on Social Computing, Network, and Services (SocialComNet 2011). Springer Communications in Computer and Information Science **185**:34-43 (2011).

250. S.G. Karadogan, L. Marchegiani, L.K. Hansen, J. Larsen. *How efficient is estimation with missing data?*. In proc. ICASSP'2011 Prague Czech Republic (2011).

251. T.J. Hansen, T.J. Abrahamsen, L.K. Hansen. *A Randomized Heuristic For Kernel Parameter Selection With Large-Scale Multi-Class Data*. In Proc. Machine Learning for Signal Processing 2011, Beijing (2011).

252. B.Ø. Wahlgreen, L.K. Hansen. *Large Scale Topic Modeling Made Practical*. In Proc. Machine Learning for Signal Processing 2011, Beijing (2011).

253. M. Mørup, M.N. Smith, L.K. Hansen. *Infinite Multiple Relational Models For Complex Networks* In Proc. Machine Learning for Signal Processing 2011, Beijing (2011).

254. S.G. Karadogan, L. Marchegiani, J. Larsen, L.K. Hansen. *Top-Down Attention With Features Missing At Random* In Proc. Machine Learning for Signal Processing 2011, Beijing (2011).

255. T.J. Hansen, M. Mørup, L.K. Hansen. *Non-Parametric Co-Clustering Of Large Scale Sparse Bipartite Networks On The GPU*. In Proc. Machine Learning for Signal Processing 2011, Beijing (2011).

256. M.K. Petersen, C. Stahlhut, A. Stopczynski, J.E. Larsen and L.K. Hansen. *Smartphones get emotional: mind reading images and reconstructing the neural sources* In Proc. Affective Computing and Intelligent Interaction Lecture Notes in Computer Science **6975**:578-587 (2011).

257. A. Stopczynski, J.E. Larsen, C. Stahlhut, M.K. Petersen, L.K. Hansen. *A Smartphone Interface for a Wireless EEG Headset with Real-Time 3D Reconstruction*. In Proc. Affective Computing and Intelligent Interaction Lecture Notes in Computer Science **6975**:317-318 (2011).

258. M.K. Petersen, L.K. Hansen. *Emotional nodes among lines of lyrics* In Proc. of 9th IEEE Conference on automatic face and gesture recognition p. 821-826, (2011).

259. L. Marchegiani, S.G. Karadogan, T. Andersen, J. Larsen, L.K. Hansen. *The Role of Top-Down Attention in the Cocktail Party: Revisiting Cherry's Experiment after Sixty Years*. In Proc. 10th International Conference and Workshops on Machine Learning and Applications (IEEE ICMLA) **1**:183-188 (2011).

260. M. Mørup, L.K. Hansen, K.H. Madsen. *Frequency constrained ShiftCP modeling of neuroimaging data.* In Proc. Conference Record of the Forty Fifth Asilomar Conference on Signals, Systems and Computers (ASILOMAR IEEE) (2011).

261. M. Mørup, L.K. Hansen, K.H. Madsen. Modeling latency and shape changes in trial based neuroimaging data. In Proc. Conference Record of the Forty Fifth Asilomar Conference on Signals, Systems and Computers (ASILOMAR IEEE) (2011).

262. J. Montoya-Martinez, A. Artes-Rodriquez, L.K. Hansen, and M. Pontil. *Structured Sparsity Regularization Approach to the EEG Inverse Problems*. Workshop on Cognitive Information Processing CIP, Baiona, Spain (2012).

263. L.K. Hansen. *Attention as a Machine Learning Problem*. Workshop on Cognitive Information Processing CIP, Baiona, Spain (2012).

264. P. Garcia-Moreno, A. Artes-Rodriquez, and L.K. Hansen. *A Hold-out Method to Correct PCA Variance Inflation*. Workshop on Cognitive Information Processing CIP, Baiona, Spain (2012). **IEEE Spain Section Best Student Paper Prize.**

265. M.K. Petersen and L.K. Hansen. *On an emotional node: modeling sentiment in graphs of action verbs*. In Proc. 3rd International Conference on Audio, Language and Image Processing, ICALIP 2012, Shanghai (2012).

266. M.K. Petersen and L.K. Hansen. *Cognitive Semantic Networks: Emotional Verbs Throw a Tantrum but Don't Bite*. Workshop on Cognitive Information Processing CIP, Baiona, Spain (2012).

267. T. Herlau, M. Mørup, M.N. Schmidt, and L.K. Hansen. *Detecting Hierarchical Structure in Networks* Workshop on Cognitive Information Processing CIP Baiona, Spain (2012).

268. K.W. Andersen, M. Mørup, H. Siebner, K.H. Madsen, L.K. Hansen. *Identifying Modular Relations In Complex Brain Networks.* In Proc. IEEE Machine Learning for Signal Processing (2012).

269. T. Herlau, M. Mørup, M.N. Schmidt, L.K. Hansen *Modelling Dense Relational Data*. In Proc. IEEE Machine Learning for Signal Processing (2012).

270. P. Mondrup Rasmussen, T. Schmah, K.H. Madsen, T.E. Lund, G. Yourganov, S.C. Strother, L.K. Hansen. *Visualization of Nonlinear Classification Models in Neuroimaging - Signed Sensitivity Maps.* In Proc. BIOSIGNALS 2012:254-263 (2012).

271. C. Stahlhut, H.T. Attias, A. Stopczynski, M.K. Petersen, J.E. Larsen, L.K. Hansen. *An Evaluation of EEG Scanners Dependence on the Imaging Technique, Forward Model Computation Method, and Array Dimensionality* In Proc. 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) (2012).

- **Other Publications and Reports**

272. B.E. Felts, L.K. Hansen and P. Salamon: *Retraining of Feed-Forward Networks*. Technical Report San Diego State University, Preprint (1991).

273. L.K. Hansen, *Neurale net på vej ud af laboratorierne*. Ingeniøren **37**, (1989) (in Danish).

274. L.K. Hansen and K. Demandt, *Neurale net med røntgensyn finder urenheder i fødevarer*. PlusProces, October 1990, 29-31, (1990). (In Danish).
Reprint in: *Visiondag på IMSOR -DTH. Rammeprogram MOBS*. Dansk Billedbehandlingskonsortium, Kompendium 22/5 1991 (1991).

275. B. Lautrup and L.K. Hansen: *Center for Neurale Netværk*. PC-World 7/(1991) (in Danish)

276. Eds. B. Lautrup, L.K. Hansen, O. Winter, and J. Gorodkin: *Det Neurale Netværk i Danmark (NNiDK)*. News-letter in Danish. Vol. 5-6 (1991)

277. Eds. B. Lautrup and L.K. Hansen: *CONNECT Mid-term Report*. CONNECT Report, (1993).

278. Eds. B. Lautrup and L.K. Hansen: *CONNECT Task Status*. CONNECT Report (Confidential), (1993).

279. Eds. B. Lautrup, L.K. Hansen, O. Winter, and J. Gorodkin: *Det Neurale Netværk i Danmark (NNiDK)*. News-letter in Danish. **7-9** (1992)

280. Eds. B. Lautrup, L.K. Hansen, and J. Gorodkin: *Det Neurale Netværk i Danmark (NNiDK)*. News-letter in Danish. **10** (1993)

281. C. Svarer and L.K. Hansen:*Nyt fra* CONNECT*: Neural Signalbehandling*. Det Neurale Netværk i Danmark **10**, 5, (1993).

282. L.K. Hansen: *Kommentar: Neural Etik*. DTH Forskning **2**, 3, (1993) (in Danish).

283. L.K. Hansen: *Redningsplanken i informationshavet*. Information April 29, 1996 (in Danish).

284. Lecture notes for DTU Course 4213: Lars Kai Hansen and Morten With Pedersen "Introduktion til neurale netværk" (In Danish).

285. C. Goutte and L.K. Hansen: *On the sample size problem in neuroimaging* Department of Mathematical Modeling, IMM Technical report 1998.

286. Sigurdur Sigurdsson and Lars Kai Hansen Extraction of black dots from dermatoscopic images. Technical Report (1999).

287. Sigurdur Sigurdsson and Lars Kai Hansen Color Segmentation of skin lesions with Gaussian Mixture Model and Clustering Technical Report (1999).

288. C. Goutte, L.K. Hansen, M.G. Liptrot, E. Rostrup: *Feature Space Clustering for fMRI Meta-analysis* Department of Mathematical Modeling, Technical report IMM-REP-1999-13, (1999).

289. L.K. Hansen and Benny Lautrup: *Hjernen i computeren*. MorgenAvisen Jyllandposten, kronik Aug 1, (2000).

290. B. Lautrup and L.K. Hansen: *Computeren i Hjernen*. MorgenAvisen Jyllandposten, kronik Aug 15, (2000).

291. L.K. Hansen: *Maskinen søger og finder*. Politikens kronik November 10, (2001).

292. L.K. Hansen *Stilhed før fremtiden*. MorgenAvisen Jyllandsposten, kronik, Nov 12, (2005)

293. L.K. Hansen *Web 3.0 - Internet der læser dine tanker*. Kronik i Berlinske Tidende, Dec 19, (2006).