

Steen Andreassen CV

Steen Andreassen
Professor, Dr. Techn., PhD (Electronic Eng.)
Center for Modelbaseret Medicinsk Beslutningsstøtte
Institut for Medicin og Sundhedsteknologi
Aalborg Universitet
Fredrik Bajers Vej 7, E4-205
9220, Aalborg Ø
Danmark
E-mail: sa@hst.aau.dk
Homepage: www.mmds.aau.dk
Telefon: +45 9940 8812
Fax: +45 9815 5816
Mobil: +45 2630 7042

Research interests

Since 1986 Steen Andreassen has been working on the development of four medical decision support systems, all of which have reached the stage of clinical testing. The decision support systems are based on model of physiology and pathophysiology and formal methods like decision theory are used to arrive at decisions. He has been system architect on MUNIN, a system for diagnosing neuromuscular disorders, and on DIAS, a system for advising on insulin dose adjustment in type I diabetes patients. He is co-ordinator for a four-year (2000-2004) EU-funded project TREAT. The goal of this project is to provide advice on antibiotic therapy for severe infections. He is leading a four-year (1999-2003) project "Model-Based Medical Decision Support Systems" funded by the IT-Committee under the Danish Research Councils currently extended to 2010. This project also includes work on the decision support system INVENT for assessment of the respiratory and metabolic status of several groups of patients (circulatory problems, postoperative hypoxemia, acid/base disturbances).

Education and academic degrees

2000

Awarded the degree of Dr. Tech. from Aalborg University for the dissertation "Medical Decision Support Systems Based on Causal Probabilistic Networks"

1977-1978

One year visit to Dr. R. B. Stein, Institute of Physiology, University of Alberta, Canada, including a two month study trip to universities and research institutions in USA. Supported by the Danish Research Councils and private foundations.

1973-1976

Ph. D. in Electronic Engineering from Dept. of Electronic Engineering, Technical University of Denmark and from Institute of Neurophysiology, University of Copenhagen for the thesis "Interval Pattern of Single Motor Units"

1973

M. Sc. in Electronic Engineering from the Technical University of Denmark.

Employment

2006-

Professor at Aalborg University, Dept. of Health Science and Technology

1998-

Head of Center for Model-based Medical Decision Support

1989-2006

Reader (docent) at Aalborg University, Dept. of Health Science and Technology (former Dept. of Medical Informatics and Image Analysis).

1983-1989

Associate professor at Aalborg University, Dept. of Medical Informatics and Image Analysis.

1980-1983 Research fellow at Aalborg University, Dept. of Medical Informatics and Image Analysis.

1978-1980

Research assistant at Aalborg University, Dept. of Medical Informatics and Image Analysis funded by a three year grant from the Danish Technical and Medical Research Councils for "The motor system as a control system".

1977-1978

Post Doctoral Fellow at Institute of Physiology, University of Alberta, Canada

1973-1976

Ph.D. student at Dept. of Electronic Engineering, Technical University of Denmark and at the Institute of Neurophysiology, University of Copenhagen.

Industrial activities

2011-

CEO of Treat Systems ApS

2008-

Co-founder and member of the board of Treat Systems ApS

2005-2009

Member of the board of Mermaid Care A/S (former Cardiotech ApS)

2002-

Co-founder and chairman of the board of OBI ApS. OBI develops methods for interpretation of blood gas, metabolic and electrolyte measurements.

2000-2005

Co-founder and chairman of the board of Cardiotech ApS. Cardiotech develops methods for diagnosis and treatment in the area of cardiovascular and pulmonary diseases.

1997-1999

Co-founder and chairman of the board of Cephalon A/S. Cephalon sells diagnostic equipment, primarily for neurophysiology, in Denmark and Sweden.

1989-1992

Co-founder and member of the board of Hugin Expert A/S, which develops and markets the Hugin shell for expert systems.

1981-

Co-founder and chairman of the board of Judex Datasystems A/S. Judex produces hardware and software for biomedical applications.

1975-1977

Co-founder and member of the board of the public company Danish Data Electronics A/S.

Scientific societies

2008-

Chairman of the Technical Committee for Modelling and Control in Biomedical Systems (MCBMS) under the International Federation of Automatic Control (IFAC)

2006-

Vicechair of the Technical Committee for Modelling and Control in Biomedical Systems (MCBMS) under the International Federation of Automatic Control (IFAC)

1999-2001

President of the European Society for Artificial Intelligence in Medicine.

1992-2004

Vicepresident of the Danish Society for Biomedical Engineering.

1990-2004

Member of the board of the Danish Society for Biomedical Engineering.

1989- Founding member of the board of the European Society for Artificial Intelligence in Medicine.

Conference organization

2009

Chairman of 7th Ifac Symposium on Modelling and Control in Biomedical Systems (including Biological Systems)

2007

Member of the organizing committee for the bi-annual conference Artificial Intelligence in Medicine, (AIME 07) ,

Amsterdam, The Netherlands

2005-

Member of the International Program Committee for the International Association of Science and Technology for Development (IASTED), Innsbruck, Austria

2005

Member of the Organizing Committee of European Society for Computing and Technology in Anaesthesia and Intensive Care (ESTAIC)

2005

Member of the organizing committee for the bi-annual conference Artificial Intelligence in Medicine, (AIME 05) Aberdeen, Scotland

2003

Member of the organizing committee for the bi-annual conference Artificial Intelligence in Medicine, (AIME 03) Cyprus

2001

Member of the organizing committee for the bi-annual conference Artificial Intelligence in Medicine, Europe (AIME 01), Cascais, Portugal

2000

Chairman of the symposium on Computers in Diabetes, Israel (CID 2000)

2000

Member of the Scientific Committee of the 4th IFAC Symposium on Modelling and Control in Biomedical Systems, Karlsburg, Germany

1999

Chairman of the conference Artificial Intelligence in Medicine, Europe (AIMDM'99), Aalborg

1998

Chairman of the symposium on Computers in Diabetes, Barcelona (CID 98)

1997

Member of the program committee for the bi-annual conference Artificial Intelligence in Medicine, Europe (AIME 97), Grenoble

1996

Chairman of the symposium on Computers in Diabetes, Graz (CID 96)

1995

Member of the program committee for the bi-annual conference Artificial Intelligence in Medicine, Europe (AIME 95), Pavia

1994

Chairman of the symposium on Computers in Diabetes, Düsseldorf (CID 94)

1993

Chairman of the program committee for the conference Artificial Intelligence in Medicine, Europe (AIME 93)

1992

Member of the organizing committee of the 5th International Conference on Computerized and Quantitative EMG 1993, Hamilton, Canada

1992

Member of the organizing committee for the symposium on Computers in Diabetes, Karlsbad, Tchechoslovakia

1991

Member of the program committee for the bi-annual conference Artificial Intelligence in Medicine, Europe (AIME 91)

1990

Chairman of the Scientific Programme Committee of the 8th Nordic Meeting on Medical and Biological Engineering, Aalborg

1990

Member of the organizing committee of the 4th International Conference on Computerized and Quantitative EMG, Mainz, Germany

1989

Member of the program committee for the bi-annual conference Artificial Intelligence in Medicine, Europe (AIME 89), London

1988

Member of the organizing committee of the 3rd International Conference on Computerized and Quantitative EMG, Cyprus

International journals

Member of the editorial board of:

1999- Methods of Information in Medicine

1996- Diabetes, Nutrition and Metabolism

1994 Yearbook of Medical Informatics 94

Reviewer for the international journals:

Artificial Intelligence in Medicine, Computer Methods and Programs in Biomedicine, IEEE Transactions on Medical and Biological Engineering, International Journal of Biomedical Computing, Journal of Intelligent Systems, Medical and Biological Engineering and Computing, Medical Engineering, Physics and Medical Informatics.

Honorary appointments and research awards

2011

BrainsBusiness Award

1992-

Appointed Senior Visiting Fellow at City University, London

1985

Honorary research award from "Civilingeniør A. R. Angelo's legat"

Supervision

Steen Andreassen has been supervisor for about 20 Ph.D. Students, advisor to about 10 postdocs and is currently supervising 3 Ph.D. Students.

Publications

During the period 1985-2011 Steen Andreassen published 90 peer reviewed journal articles and 317 publications in total.

Andreassen S, Møller JK, Eliakim-Raz N, Lisby G, Ward L. **A comparison of predictors for mortality and bacteraemia in patients suspected of infection.** BMC Infectious Diseases. 2021 aug. 23;21(1):864. doi: 10.1186/s12879-021-06547-0

Andreassen S, Pielmeier US. **Glycaemic control in the ICU – where are we today.** Journal für Anästhesie und Intensivbehandlung . 2019;(2):3-7.

Andreassen S, Zalounina A, Paul M, Sanden L, Leibovici L. **Interpretative reading of the antibiogram: a semi-naïve Bayesian approach.** Artificial Intelligence in Medicine. 2015;65(3):209-217. doi: 10.1016/j.artmed.2015.08.004

Andreassen S, Desai T, Karbing DS. **Modelling in anaesthesia and intensive care: A special section including papers from IFAC's 8. Symposium on Medical and Biological Systems in Budapest 2012.** Journal of Clinical Monitoring and Computing. 2014;28(6):499-500. doi: 10.1007/s10877-014-9637-8

Andreassen S. **From model to medical device: the life cycle of medical decision support systems.** I 8th IFAC Symposium on Biological and Medical Systems, 29-31 August 2012, Budapest, Hungary [CD-ROM]. Elsevier. 2012. s. Article No. A-0119

Andreassen S, Karbing DS, Pielmeier U, Rees SE, Zalounina A, Sanden LR et al. **Model-based medical decision support: A road to improved diagnosis and treatment?** International Federation for Medical and Biological Engineering Proceedings . 2011;34:257-260. doi: 10.1007/978-3-642-21683-1_65

Andreassen S, Steimle KL, Mogensen ML, de la Serna JB, Rees SE, Karbing DS. **The effect of tissue elastic properties and surfactant on alveolar stability**. Journal of Applied Physiology. 2010;109(5):1369-1377. doi: 10.1152/jappphysiol.00844.2009

Andreassen S, Zalounina A, Kariv G, Leibovici L, Paul M. **Computerised antibiotic susceptibility prediction: accounting for prior knowledge and cross-resistance**. Clinical Microbiology and Infection. 2009;15(Suppl. 4 [CD-ROM]).

Andreassen S, Zalounina A, Paul M, Leibovici L. **Design of a method for prediction of susceptibility to antimicrobials**. Elsevier IFAC Publications / IFAC Proceedings series. 2009;313-318.

Andreassen S, Zalounina A, Pedersen KB, Gade J, Paul M, Leibovici L. **Steps on the road to clinical application of decision support: example TREAT**. Lecture Notes in Computer Science. 2009;5651:166-170. doi: 10.1007/978-3-642-02976-9_22

Andreassen S, Zalounina A, Leibovici L, Paul M. **Learning susceptibility of a pathogen to antibiotics using data from similar pathogens**. Methods of Information in Medicine. 2009;48(3):242-247. doi: 10.3414/ME9226

Andreassen S, Pielmeier U, Chase G. **Receptor-based models of insulin saturation dynamics**. I Hierlemann A, red., Proceedings of the Sixth IASTED International Conference on Biomedical Engineering, 13-15 February 2008, Innsbruck, Austria [CD-ROM]. ACTA Press. 2008. s. 182-186, No. 601-066

Andreassen S, Zalounina A, Leibovici L, Paul M. **Learning susceptibility of a pathogen to antibiotics using data from similar pathogens**. I Working Notes, Intelligent Data Analysis in bioMedicine and Pharmacology, IDAMAP 2007, 8 July 2007. (Workshop at the AIME 2007 Conference). 2007. s. 85-89

Andreassen S, Pielmeier U, Vidal L. **A meta-analysis of the frequency of side effects for HAART drugs**. I 16th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID), 1-4 April 2006, Nice, France [CD-ROM]. Wiley-Blackwell. 2006. s. No. P623

Andreassen S, Paul M, Tacconelli E, Nielsen AM, Almanasreh N, Frank U et al. **TREAT: a system for balancing antibiotic treatment against development of drug resistance**. Journal of Clinical Monitoring and Computing. 2006;20(2):141.

Andreassen S, Leibovici L, Paul M, Nielsen AD, Zalounina A, Kristensen LE et al. **A probabilistic network for fusion of data and knowledge in clinical microbiology**. I Dybowski R, Husmeier D, Roberts S, red., Probabilistic Modelling in Bioinformatics and Medical Informatics. Berlin: Springer. 2005. s. 451-472. (Advanced information and knowledge processing).

Andreassen S, Rees SE. **Mathematical models of oxygen and carbon dioxide storage and transport: interstitial fluid and tissue stores and whole-body transport**. Critical Reviews in Biomedical Engineering. 2005;33(3):265-298.

Andreassen S, Kristensen B, Zalounina A, Leibovici L, Frank U, Schönheyder HC. **Hierarchical dirichlet learning: filling in the thin spots in a database**. I Dojat M, Keravnou E, Barahona P, red., Artificial Intelligence in Medicine. Proceedings of the 9th Conference on Artificial Intelligence in Medicine in Europe, AIME 2003, October 2003, Protaras, Cyprus: Lecture notes in artificial intelligence. 2780 udg. Springer. 2003. s. 274-283

Andreassen S, Arleth T, Orsini-Federici M, Benedetti MM. **The action profile of subcutaneously injected insulin**. I Proceedings of the Word Congress on Medical Physics and Biomedical Engineering 2003, August 2003, Sydney, Australia. 2003

Andreassen S, Suojanen M, Falck B, Olesen KG. **Improving the diagnostic performance of MUNIN by remodelling of the diseases**. I Quaglini S, Barahona P, Andreassen S, red., Artificial Intelligence in Medicine : 8th Conference on Artificial Intelligence in Medicine in Europe, AIME 2001, 1-4 July 2001, Cascais, Portugal : Proceedings: Lecture Notes in Computer Science. 2101 udg. IEEE Computer Society Press. 2001. s. 167-176

Andreassen S. **Medical decision support systems based on causal probabilistic networks**. 2nd udg. Aalborg: Department of Medical Informatics and Image Analysis, 2001.

Andreassen S. **Medical decision support systems based on causal probabilistic networks**. Aalborg: Aalborg University. Department of Medical Informatics and Image Analysis, 2000.

Andreassen S, Suojanen M, Falck B, Olesen KG. **Improving the diagnosing performance of MUNIN by remodelling of the diseases**. 2000. (Technical Report : Department of Medical Informatics, Aalborg University).

Andreassen S, Arleth T. **A model of the effects of exercise on intramuscular glycogen and on blood glucose**. Diabetes, Nutrition and Metabolism. Clinical and Experimental. 2000;13(4):241, No. 36.

Andreassen S, Leibovici L, Schønheyder HC, Kristensen B, Riekehr C, Kjær AG et al. **A decision theoretic approach to empirical treatment of bacteraemia originating from the urinary tract**. I Horn W, Shahar Y, Lindberg G, Andreassen S, Wyatt J, red., Proceedings of Joint European Conference on Artificial Intelligence in Medicine and Medical Decision Making, AIMDM 99, 20-24 June 1999, Aalborg, Denmark. Springer. 1999. s. 197-206. (Lecture Notes in Artificial Intelligence , subseries of Lecture Notes in Computer Science; Nr. 1620). doi: 10.1007/3-540-48720-4_21

Andreassen S, Rees SE, Kjærgaard S, Thorgaard P, Winter SM, Morgan CJ et al. **Hypoxemia after coronary bypass surgery modeled by resistance to oxygen diffusion**. Critical Care Medicine. 1999;27(11):2445-2453.

Andreassen S, Riekehr C, Kristensen B, Schønheyder HC, Leibovici L. **Using probabilistic and decision-theoretic methods in treatment and prognosis modeling**. Artificial Intelligence in Medicine. 1999;15(2):121-134.

Andreassen S, Leibovici L, Schønheyder HC, Kristensen B, Riekehr C, Kjær AG et al. **A decision theoretic approach to empirical treatment of bacteraemia originating from the urinary tract**. I Proceedings of Workshop on Intelligent Data Analysis in Medicine and Pharmacology, IDAMAP-98: a Workshop at ECAI-98, Brighton, UK. 1998. s. 48-53

Andreassen S, Kristensen B, Schønheyder HC, Kjær AG, Olesen KG, Leibovici L. **Beslutningsstøttesystem til styring af antibiotikabehandling: et passende emne for MTV?** I Sundhedsstyrelsens Årsmøde 1997 om Kvalitetsudvikling og Medicinsk Teknologivurdering (MTV), April 1997, København, Danmark. 1997. s. 41

Andreassen S, Rees SE, Kjærgaard S, Winter SM, Morgan CJ, Andersen P. **Patient specific modelling of hypoxaemia**. I Proceedings of the Mathematical Modelling in Medicine Conference, 25-26 September 1997, Roskilde, Denmark. 1997. s. 6-7

Andreassen S, Hejlesen OK, Frandsen NE, Petersen T, Sandø SH, Cavan DA et al. **Evaluation of a diabetes advisory system**. Diabetologia. 1997;40(Suppl. 1):A645, No. 2536.

Andreassen S, Carson ER, Cashman SJ, Engelbrecht R, Fletcher LR, Harvey M et al. **A methodology for assessing and evaluating information technology systems in diabetes care**. Diabetes, Nutrition and Metabolism. Clinical and Experimental . 1997;10:256-264.

Andreassen S, Leibovici L, Schønheyder HC, Olesen KG, Kristensen B. **Decision support systems in bacteraemia: evaluation of a prototype for empirical treatment of Danish patients with urosepsis**. I Proceedings, Bi-National Israel-Denmark Symposium on Optimal Antibiotic Treatment of Severe Bacterial Infections, November 11-12 1996, Herzlia, Israel. 1996

Andreassen S, Hejlesen OK, Frandsen NE, Petersen T, Sandø SH, Cavan DA et al. **Evaluation of Diabetes Advisory System (DIAS) by a double blind controlled clinical trial: a necessary step?** I Andreassen S, Cavan DA, Trajanoski Z, red., Proceedings, Symposium on Computers in Diabetes , 31 August-1 September 1996, Graz, Austria. Aalborg: Aalborg University. Department of Medical Informatics and Image Analysis. 1996. s. 39. (Symposium on Computers in Diabetes : Proceedings).

Andreassen S. **Tre år med kvalitetsregnskaber i Nordjyllands Amt.** I Sundhedsstyrelsens Årsmøde 1996 om Kvalitetsudvikling og Medicinsk Teknologivurdering (MTV), 1996. Sundhedsstyrelsen. 1996. s. 7

Andreassen S, Hejlesen OK, Hovorka R, Cavan DA. **The Diabetes Advisory System: an IT approach to the management of insulin dependent diabetes.** I Brender, J. : Christensen, J. P. : Scherrer, J.-R. : McNair, P. (eds.), red., Medical Informatics Europe '96. Amsterdam: IOS Press. 1996. s. 1079-1083. (Studies in Health Technology and Informatics; Nr. 34).

Andreassen S, (ed.), Cavan DA, (ed.), Trajanoski Z, (ed.). **Proceedings from the Symposium on Computers in Diabetes on the Occasion of EASD 96.** Aalborg: Aalborg University. Department of Medical Informatics and Image Analysis, 1996. (Symposium on Computers in Diabetes : Proceedings).

Andreassen S, Egeberg J, Schröter MP, Andersen PT. **Estimation of pulmonary diffusion resistance and shunt in an oxygen status model.** Computer Methods and Programs in Biomedicine. 1996;51(1-2):95-105. doi: 10.1016/0169-2607(96)01765-8

Andreassen S, Rosenfalck A, Falck B, Olesen KG, Andersen SK. **Evaluation of the diagnostic performance of the expert EMG assistant MUNIN.** Electroencephalography and Clinical Neurophysiology. 1996;101:129-144.

Andreassen S. **Hvad er kvalitetskontrol og hvordan man opnår det.** I Nordisk Møde for Kliniske Neurofysiologer, 1995. Dansk Selskab for Klinisk Neurofysiologi. 1995

Andreassen S, Hejlesen OK, Sandø SH. **Evaluation of the DIAS model of glucose metabolism.** I Symposium on Computers in Diabetes on the occasion of EASD 94: Proceedings. 1994. s. 28

Andreassen S, Hejlesen OK. **The role of model-based systems in medical decision support.** I Ifeachor EC, Rosen KG, red., Proceedings of the International Conference on Neural Networks and Expert Systems in Medicine and Healthcare: NNESMED 94. Plymouth: University of Plymouth Press. 1994. s. 310-318

Andreassen S. **From prototype to product: conditions for a successful transition.** I Barahona P, Christensen JP, red., Knowledge and Decisions in Health Telematics. Amsterdam: IOS Press. 1994. s. 163-167. (Studies in Health Technology and Informatics; Nr. 12).

Andreassen S, Christensen HI. **Image and signal processing: synopsis.** I van Bommel JH, McCray AT, red., IMIA Yearbook of Medical Informatics 1994: Advanced Communications in Health Care. Stuttgart: Schattauer. 1994. s. 263-265. (IMIA Yearbook of Medical Informatics).

Andreassen S, Benn JJ, Hovorka R, Olesen KG, Carson ER. **A probabilistic approach to glucose prediction and insulin dose adjustment: description of a metabolic model and pilot evaluation study.** Computer Methods and Programs in Biomedicine. 1994;41(3-4):153-165.

Andreassen S. **Model-based biosignal interpretation.** Methods of Information in Medicine. 1994;33(1):103-110.

Andreassen S, Olesen KG. **Diagnosis of neuromuscular diseases by the EMG expert system MUNIN.** I Proceedings of the Annual Meeting of the Danish Society for Clinical Neurophysiology, Kolding, Denmark. 1993

Andreassen S, Egebjerg J, Schröter M, Andersen PT. **Oxygen status model for the ventilatory and circulatory contribution to tissue oxygenation.** I Andreassen S, Engelbrecht R, Wyatt J, red., Artificial Intelligence in Medicine : Proceedings of the 4th Conference on Artificial Intelligence in Medicine Europe, 3-6 October 1993, Munich, Germany. Amsterdam: IOS Press. 1993. s. 208-217. (Studies in Health Technology and Informatics; Nr. 10).

Andreassen S, (ed.), Engelbrecht R, (ed.), Wyatt J, (ed.). **Artificial Intelligence in Medicine: Proceedings of the 4th Conference on Artificial Intelligence in Medicine Europe, 3-6 October 1993, Munich, Germany**. Amsterdam: IOS Press, 1993. (Studies in Health Technology and Informatics; Nr. 10).

Andreassen S, Falck B, Olesen KG. **EMG cases as seen by the expert system MUNIN, by EMG experts and by the audience**. Canadian Journal of Neurological Sciences. 1993;20:344.

Andreassen S. **Diagnosis of neuromuscular disorders based on anatomy and physiology**. I IEE colloquium on "Neurological Signal Processing", 26 March 1992, London, United Kingdom. 1992. s. Digest No. 1992/069

Andreassen S. **Prediction of blood glucose and adjustment of insulin doses by a metabolic model - SWAN**. I Computers in Diabetes : Proceedings of the International Symposium held on the Occasion of the European Association for the Study of Diabetes, EASD '92, 14-15 September 1992, Karlovy Vary, Czechoslovakia. 1992. s. 4

Andreassen S. **The diagnostic performance of the EMG expert system "MUNIN"**. I Proceedings IXth International Congress of Electromyography and Clinical Neurophysiology, 8-12 June 1992, Jerusalem, Israel. 1992. s. 10

Andreassen S. **Knowledge representation by extended linear models**. I Keravnou E, red., Deep Models for Medical Knowledge Engineering. Pergamon Press. 1992. s. 129-145

Andreassen S, Falck B, Olesen KG. **Diagnostic function of the microhuman prototype of the expert system: MUNIN**. Electroencephalography and Clinical Neurophysiology. 1992;85:143-157.

Andreassen S. **Planning of therapy and tests in causal probabilistic networks**. Artificial Intelligence in Medicine. 1992;4(3):227-241. doi: 10.1016/0933-3657(92)90029-O

Andreassen S, Hovorka R, Benn J, Olesen KG, Carson ER. **A model-based approach to insulin adjustment**. I Stefanelli M, Hasman A, Fieschi M, Talmon J, red., Lecture Notes in Medical Informatics: Proceedings of the Third Conference on Artificial Intelligence in Medicine, AIME '91, Maastricht, the Netherlands. Bind 44. Springer. 1991. s. 239-249. (Lecture Notes in Medical Informatics; Nr. 44).

Andreassen S. **Decisions based on qualitative and quantitative reasoning**. I Talmon JL, Fox J, red., Knowledge Based Systems in Medicine : Methods, Applications, and Evaluation: Proceedings of the Workshop "System Engineering in Medicine", 16-18 March 1989, Maastricht, the Netherlands. Berlin: Springer. 1991. s. 68-79. (Lecture Notes in Medical Informatics; Nr. 47).

Andreassen S, Hovorka R, Benn JJ, Olesen KG, Carson E. **A model-based approach to insulin adjustment**. Aalborg: Institute of Electronic Systems, Aalborg University, 1991. (Aalborg Universitetscenter. Institut for Elektroniske Systemer - Rapport; Nr. 91-12).

Andreassen S, Benn JJ, Hovorka R, Olesen KG, Carson ER. **A probabilistic approach to glucose prediction and insulin dose adjustment: description of a metabolic model and pilot evaluation study**. Aalborg: Institute of Electronic Systems, Aalborg University, 1991. (Aalborg Universitetscenter. Institut for Elektroniske Systemer - Rapport; Nr. 91-23).

Andreassen S, Falck B, Olesen KG. **Diagnostic function of the expert EMG assistant MUNIN**. Aalborg: Institute of Electronic Systems, Aalborg University, 1991. (Aalborg Universitetscenter. Institut for Elektroniske Systemer - Rapport; Nr. 91-15).

Andreassen S. **Knowledge representation by extended linear models**. Aalborg: Institute of Electronic Systems, Aalborg University, 1991. (Aalborg Universitetscenter. Institut for Elektroniske Systemer - Rapport; Nr. 91-30).

Andreassen S, Jensen FV, Olesen KG. **Medical expert systems based on causal probabilistic networks**. Aalborg: Institute of Electronic Systems, Aalborg University, 1991. (Aalborg Universitetscenter. Institut for Elektroniske Systemer - Rapport; Nr. 91-6).

Andreassen S. **Different types of decision support systems: the clinical perspective.** Scandinavian Journal of Gastroenterology. 1991;26(s183):32, No. 123.

Andreassen S, Jensen FV, Olesen KG. **Medical expert systems based on causal probabilistic networks.** International Journal of Biomedical Computing. 1991;28(1-2):1-30.

Andreassen S, Benn JJ, Carson E, Hovorka R, Kjærulff UB, Olesen KG. **A causal probabilistic network model of carbohydrate metabolism for insulin adjustment.** I Pedersen PC, Onoral B, red., Biomedical Engineering Perspectives : Health Care Technologies for the 1990'es and Beyond. Proceedings of the 12th Annual International Conference Engineering in Medicine and Biology Society, IEEE/EMBS, 1990, New York, NY, USA. 1990. s. 1011

Andreassen S, Benn J, Carson E, Kristensen LD, Hovorka R, Kjærulff UB et al. **A causal probabilistic network model of carbohydrate metabolism in diabetes.** I Proceedings of the 8th Nordic Meeting on Medical and Biological Engineering, June 1990, Aalborg, Denmark. 1990. s. A78

Andreassen S, Falck B, Olesen KG, Rosenfalck A. **The MUNIN microhuman: a prototype of an expert system for diagnosis of neuromuscular disorders.** I Proceedings of the 8th Nordic Meeting on Medical and Biological Engineering, June 1990, Aalborg, Denmark. 1990. s. A89

Andreassen S. **Expert systems in EMG.** Electroencephalography and Clinical Neurophysiology. 1990;75(Suppl.):S4. doi: 10.1016/0013-4694(90)91730-D

Andreassen S, Stålberg E. **Knowledge-based systems and EMG.** I Desmedt JE, red., Computer-Aided Electromyography and Expert Systems. Pergamon Press. 1989. s. 249-253

Andreassen S, Jensen FV, Andersen SK, Falck B, Kjærulff U, Woldbye M et al. **MUNIN: an expert EMG assistant.** I Desmedt JE, red., Computer-Aided Electromyography and Expert Systems. Pergamon Press. 1989. s. 255-277

Andreassen S, Selmar P, Christiansen B, Rasmussen A. **Measurement of MUP parameters.** I Proceedings of the III International Conference on Computerised and Single Fiber EMG, 5-8 June 1988, Cyprus. 1988. s. 38

Andreassen S, Andersen SK, Falck B, Jensen FV, Rosenfalck A. **Pathophysiological features used to describe the state of nerve segments and muscles in the expert EMG assistant MUNIN.** I IIIth International Conference on Computerised and Single Fiber EMG, 5-8 June 1988, Cyprus. 1988. s. 54

Andreassen S, Arendt-Nielsen L. **Conduction velocity of motor unit action potentials in human anterior tibial muscle as a new size principle parameter.** I Society for Neuroscience 17th Annual Meeting, 16-21 November 1987, New Orleans, LA, USA: Abstract Book, Vol. 13. 1987. s. 332.15

Andreassen S, Woldbye M, Falck B, Andersen SK. **MUNIN: a causal probabilistic network for interpretation of electromyographic findings.** I Proceedings of the 10th International Joint Conference on Artificial Intelligence, 1987, Milano, Italy. 1987. s. 366-372

Andreassen S. **Methods for computer-aided measurement of motor unit parameters.** I Ellingson RJ, Murray NMF, Halliday AM, red., The London Symposia. Amsterdam: Elsevier. 1987. s. 13-20. (EEG Suppl.; Nr. 39).

Andreassen S, Andersen SK, Jensen FV, Woldbye M, Rosenfalck A, Falck B et al. **MUNIN: an expert system for EMG.** Electroencephalography and Clinical Neurophysiology. 1987;66(5):S4. doi: 10.1016/0013-4694(87)91775-5

Andreassen S. **Medicinske ekspertsystemer.** MT : Medicinsk Teknologi. 1987;(3):12-16.

- Andreassen S, Arendt-Nielsen L. **Muscle fibre conduction velocity in motor units of the human anterior tibial muscle: a new size principle parameter.** *Journal of Physiology.* 1987;391:561-571.
- Andreassen S, Andersen SK, Woldbye M. **An expert system for electromyography.** I Abstracts, Novel Approaches to the Study of Motor Systems: Satellite Symposium to the XXX International Congress of Physiological Sciences, 10-13 July 1986, Banff, Alberta, Canada. 1986. s. 2-3
- Andreassen S. **Acquisition of motor unit potentials by pattern recognition techniques.** *Muscle & Nerve.* 1986;9(6):569-570. doi: 10.1002/mus.880090614
- Andreassen S. **Automatic acquisition and analysis of motor unit potentials.** I Second International Conference on Computerized Electromyography, 15-19 June 1985, Monte-Carlo, Monaco. 1985. s. 73-75
- Andreassen S, Arendt-Nielsen L. **Fatigue of motor units in the human anterior tibial muscle.** *Electroencephalography and Clinical Neurophysiology.* 1985;61(3):S59, No. W13.08. doi: 10.1016/0013-4694(85)90250-0
- Andreassen S. **Feature extraction from EMG.** *Electroencephalography and Clinical Neurophysiology.* 1985;61(3):S222, No. DPS1.04. doi: 10.1016/0013-4694(85)90842-9
- Andreassen S. **Methods for computer measurement of single motor unit potentials.** *Electroencephalography and Clinical Neurophysiology.* 1985;61(3):S3, No. S 2.03. doi: 10.1016/0013-4694(85)90056-2
- Andreassen S. **Automatic mimicking of manual MUP analysis.** I Seminar on Automated Quantitation of Motor Unit Potentials, 20 September 1984, Kansas City, Missouri, USA. Rochester, MN: American Association of Electromyography and Electrodiagnosis. 1984. s. 8
- Andreassen S, Hoffer JA. **An estimate of the contributions of length and force feedback to the regulation of soleus muscle stiffness in the premammillary cat.** Aalborg: Institut for Elektroniske Systemer, Aalborg Universitetscenter, 1984. 38 s. (Aalborg Universitetscenter. Institut for Elektroniske Systemer - Rapport; Nr. 85-7).
- Andreassen S. **Computerized analysis of motor unit firing.** I Desmedt JE, red., *Computer-Aided Electromyography.* Basel: Karger. 1983. s. 150-163. (Progress in Clinical Neurophysiology; Nr. 10).
- Andreassen S, Midtgard F. **Automatic analysis of motor unit potentials.** *Electroencephalography and Clinical Neurophysiology.* 1983;56(3):S39, No. F6. doi: 10.1016/0013-4694(83)92051-5
- Andreassen S, Bar-On E. **Estimation of motor unit twitches.** *IEEE Transactions on Biomedical Engineering.* 1983;BME-30(11):742-748. doi: 10.1109/TBME.1983.325189
- Andreassen S, Hoffer JA. **Reflex action on soleus muscle stiffness in the premammillary decerebrate cat.** *Acta Physiologica Scandinavica. Supplementum.* 1982;(508):29, No. 41.
- Andreassen S. **Mikrodatamat til On-line signalanalyse: samspillet mellem hardware og software i en tidskritisk analyse af tyggemusklernes belastning.** *Elektronik.* 1982;1982(4):24-25.
- Andreassen S, Hoffer JA. **Mathematical modelling of the stretch reflex.** I Öberg PÅ, red., *Proceedings, 5th Nordic Meeting on Medical and Biological Engineering, June 10-13 1981, Linköping, Sweden: 25th Anniversary of the Swedish Society for Medical Physics and Medical Engineering, June 15-17 1981, Umeå, Sweden.* Linköping: Department of Biomedical Engineering, Linköping University. 1981. s. 36-38
- Andreassen S, Bar-On E. **Reconstruction of the twitch from a single motor unit.** I Öberg PÅ, red., *Proceedings, 5th Nordic Meeting on Medical and Biological Engineering, June 10-13 1981, Linköping, Sweden: 25th Anniversary of the Swedish Society for Medical Physics and Medical Engineering, June 15-17 1981, Umeå, Sweden.* Linköping: Department of Biomedical Engineering, Linköping University. 1981. s. 207-209

- Andreassen S, Jørgensen N. **A model for the motor unit potential**. *Electroencephalography and Clinical Neurophysiology*. 1981;52(3):S116, No. C-4.01. doi: 10.1016/0013-4694(81)92791-7
- Andreassen S, Bar-On E. **Estimation of single motor unit twitch during voluntary contraction**. *Electroencephalography and Clinical Neurophysiology*. 1981;52(3):S126, No. C-4.02. doi: 10.1016/0013-4694(81)92832-7
- Andreassen S, Rosenfalck A. **Relationship of intracellular and extracellular action potentials of skeletal muscle fibers**. *Critical Reviews in Bioengineering*. 1981;6(4):267-306.
- Andreassen S. **Single motor unit recording**. I Feldman RG, Young RR, Koella WP, red., *Spasticity: Disordered Motor Control*. Miami, FL: Symposia Specialists. 1980. s. 205-218
- Andreassen S. **Brugervejledning til sandtidsmonitoren RTE 80**. Aalborg: Institut for Elektroniske Systemer, Aalborg Universitetscenter, 1980. 48 s. (Aalborg Universitetscenter. Institut for Elektroniske Systemer - Rapport; Nr. 80-2).
- Andreassen S, Rosenfalck A. **Regulation of the firing pattern of single motor units**. *Journal of Neurology, Neurosurgery and Psychiatry*. 1980;43(10):897-906. doi: 10.1136/jnnp.43.10.897
- Andreassen S. **Automatic classification of muscle action potentials**. I XII International Conference on Medical and Biological Engineering, V International Conference on Medical Physics, 19-24 August 1979, Jerusalem, Israel: Digest of the combined meeting. Bind IV. Jerusalem: The Combined Meeting Executive Committee. 1979. s. No. 93.5
- Andreassen S, Rosenfalck A. **Double discharges of single motor units**. *Acta Neurologica Scandinavica*. 1979;60(Supplementum 73):108. doi: 10.1111/j.1600-0404.1979.tb07668.x
- Andreassen S, Stein RB, Oğuztöreli MN. **Application of optimal multichannel filtering to simulated nerve signals**. *Biological Cybernetics*. 1979;32(1):25-33.
- Andreassen S. **Interval pattern of single motor units**. Aalborg: Aalborg Universitetsforlag, 1978. 219 s. (Series in Biomedical Engineering; Nr. 1).
- Andreassen S, Rosenfalck A. **Impaired regulation of the firing pattern of single motor units**. *Muscle & Nerve*. 1978;1(5):416-418. doi: 10.1002/mus.880010514
- Andreassen S, Rosenfalck A. **Recording from a single motor unit during strong effort**. *IEEE Transactions on Biomedical Engineering*. 1978;BME-25(6):501-508. doi: 10.1109/TBME.1978.326283
- Andreassen S. **Interval pattern of single motor units**. Copenhagen: Electronics Laboratory. Technical University of Denmark, 1977.
- Andreassen S, Rosenfalck A. **Single motor unit recording**. I Proceedings of the IV Nordic Meeting on Medical and Biological Engineering, 29 June-2 July 1977, Lyngby/Copenhagen, Denmark. 1977. s. 19.1-19.3
- Andreassen S, Rosenfalck A. **Recording from a single motor unit during strong effort**. *Electroencephalography and Clinical Neurophysiology*. 1977;43(4):593, No. M031. doi: 10.1016/0013-4694(77)90324-8
- Andreassen S, Rosenfalck A. **The correlation coefficient of successive intervals between discharges of motor units as an indicator of motor control**. *Acta Physiologica Scandinavica. Supplementum*. 1976;440:95, No. 131.

Andreassen S. **Automatic separation of multi-unit electromyographic recordings.** I Proceedings of the III Nordic Meeting on Medical and Biological Engineering, Tampere, Finland. 1975. s. 8.1-8.3