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**CV 2012 for  
Kim Dremstrup**

Kim Dremstrup, MSc-BME, PhD, is Head of Department of Health Science and Technology and associate professor within the Faculty of Medicine at Aalborg University. The department has the mission to establish competencies at the highest scientific level within technological and medical aspects of the health scene - spanning *from cell to system*. The department has more than 160 scientific and 40 technical/administrative employees. The department is main responsible for 1000+ BME., sports, medical and other students and app. 100 phd students. The annual budget for the department is app. Dkr 140+ mill. In year 2000 the department started as a first in Europe a full 5-year BME program which uses Problem Based Learning as the pedagogical model. In 2006 the MSc. education Medicine with industrial specialization and in 2010 a Medicine program was initiated. For more info about the department please see: [www.hst.aau.dk](http://www.hst.aau.dk)

**Education**

MSc\_BME 1984, AUC. PhD 1993, AAU. Institutlederkursus 2005, SDU. Diverse management- and cooperation courses, AAU

**Research**

KD's research is focused on methods for retrieving and analysis of information from the brain. Especially methods for EEG-analysis, rehabilitation technology, brain computer interfaces and sleep research are points of foci. He was the inventor of the commercialized Nightingale Automatic Sleep Analyzer System and co-inventor of the widely used bio-dataformat EDF. KD is affiliated to Center for Sensory Motor Interaction where he is heading BCI-laboratory.

**Positions**

Head of Department, HST AAU 2003; Head of Studies, AAU 2002; Associate professor, AAU 1993; Assistant professor, AUC 1988; Research assistant, AUC 1984;

**International collaboration**

Kim Dremstrup has participated in following international research programs:

- **Comac-BME** EU Concerted action generating a.o. a biosignal storage format EDF (European Data Format) which now is used worldwide.
- **SIESTA** - an "acronym" for the EU-project: A New Standard for Integrating Polygraphic Sleep Recordings into a Comprehensive Model of Human Sleep and its Validation in Sleep Disorders.
- **The European Neurological Network** – ENN, an EU-telematics program.
- **CEN TC251 WG5-pt21** project team on standardization of vital signs information exchange
- **Neuromath, EU-COST program BM601**
- **FTP-BCI-project 2009**, proj. 2117-05-0083
- **Artemis EU-rehab. project 2012**

**Reviewer**

KD acts as reviewer for several Journals and book-publishers:

Eg. IEEE-Trans.NSRE, New England Journal of Medicine, Journal of Neuroscience Methods, Sleep Medicine Reviews, Respiratory Medicine, Jour. Med & Bio. Eng & Comp, Journal of Neural Engineering.

Act s reviewer for EU, Austrian and Singapore national research councils

**Boards**

- Head of Department of Health Science and Technology, Aalborg University since 2003
- President of the Danish Society for Biomedical Engineering, national representative in IFMBE
- Co-founder and board member in CHAT, Center for Human Applications and Technology in 2005
- Co-founder and board member in The Danish Society of Engineers, IDA, group on Biomedical Engineering
- Co-founder of the Danish Sleep Research Society
- Co-founder and board member in AAU- and regional networks on Medicoteknik, Handiatek and BioMedCom
- Board member in Fonden Nordjysk BST

**Publications**

Kim Dremstrup is author and coauthor of 137 research publications including more than 50 peer rev. journal papers. Please find selected list below and full list of publications on [www.hst.aau.dk/~kdn](http://www.hst.aau.dk/~kdn) or on AAU's research portal.

## Selected publications for Kim Dremstrup:

- Peripheral electrical stimulation triggered by self-pace detection of motor intention enhances motor evoked potentials.** Niazi, I. K. , Mrachacz-Kersting, N., Jiang, N. , *Dremstrup, K.*, & Farina, D. (2012). *I E E Transactions on Neural Systems and Rehabilitation Engineering*, 20(4), 595-604, Article No. 6189795.
- 15th Nordic-Baltic Conference on Biomedical Engineering and Medical Physics, NBC 2011, 14-17 June 2011, Aalborg Denmark.** *Dremstrup, Kim* (Editor) ; Rees, Stephen Edward (Editor) ; Jensen, Morten Ølgaard (Editor). Springer, 2011. 277 s. (IFMBE Proceedings; 34).
- Comparing MRCP of healthy subjects with that of ALS patients.** Gu, Ying ; *Dremstrup, Kim*. International Federation for Medical and Biological Engineering Proceedings, Vol. 34, 2011, s. 141-143.
- Detection of movement intention from single-trial movement-related cortical potentials.** Niazi, Imran Khan ; Jiang, Ning ; Tiberghien, Olivier ; Nielsen, Jørgen Feldbæk ; *Dremstrup, Kim* ; Farina, Dario. *Journal of Neural Engineering*, Vol. 8, Nr. 6, 2011, s. Article No. 066009.
- Motor imagination combined with peripheral stimulation increases cortical excitability.** Mrachacz-Kersting, Natalie ; Kristensen, Signe Rom ; Niazi, Imran Khan ; *Dremstrup, Kim* ; Farina, Dario. Proceedings Ninth Göttingen Meeting of the German Neuroscience Society and 33rd Göttingen Neurobiology Conference, 23-27 March 2011, Göttingen, Germany. Neurowissenschaftliche Gesellschaft, 2011. s. No. T21-11B.
- Comparison of feature selection and classification methods for a brain-computer interface driven by non-motor imagery.** Cabrera, Alvaro Fuentes ; Farina, Dario ; *Dremstrup, Kim*. *Medical & Biological Engineering & Computing*. 2010 ; vol. 48, nr. 2, s. 123-132
- Effect of abstract feedback following use of brain computer interface for upper limb rehabilitation.** Niazi, I. K., Jiang, N., Mrachacz-Kersting, N., *Dremstrup, K.* & Farina, D. 2010 Abstracts of the XVIII Congress of the International Society of Electrophysiology and Kinesiology, ISEK 2010, 16-19 June 2010, Aalborg, Denmark
- Offline identification of imagined speed of wrist movements in paralyzed ALS patients from single-trial EEG.** Gu, Ying ; Farina, Dario ; Murguialday, Ander Ramos ; *Dremstrup, Kim* ; Montoya, Pedro ; Birbaumer, Niels. *Frontiers in Neuroscience*. 2009 ; vol. 3, nr. Article No. 62.
- Single-trial discrimination of type and speed of wrist movements from EEG recordings.** / Gu, Ying ; *Dremstrup, Kim* ; Farina, Dario. *Clinical Neurophysiology*. 2009 ; vol. 120, nr. 8, AUG. s. 1596-1600.
- Auditory and spatial navigation imagery in Brain-Computer Interface using optimized wavelets**  
Cabrera, A. R. & *Dremstrup, K.* 2009 I : *Journal of Neuroscience Methods*. 174, 1, s. 135-146.
- Smario : a toolbox for Brain-Computer Interfacing analysis and design.** / Cabrera, Alvaro Rodrigo ; Farina, Dario ; *Dremstrup, Kim*. I: Proceedings of the 4th International IEEE EMBS Conference on Neural Engineering, April 29-May 2 2009, Antalya, Turkey. IEEE conference proceedings, 2009. s. 429-432
- Steady-State Visual Evoked Potentials to drive a Brain Computer Interface.** Cabrera, A. R. & *Dremstrup, K.* 2008 Aalborg : Department of Health Science and Technology. Aalborg University. . 33 s. Report: ISBN 978-87-90562-71-7 / Aalborg University, Department of Health Science and Technology; 2008
- EEG based BCI - towards a better control. Brain-Computer Interface research at Aalborg University.** / *Nielsen, Kim Dremstrup* ; Cabrera, Alvaro Rodrigo ; Nascimento, Omar do. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*. 2006 ; vol. 14, nr. 2, JUN. s. 202-204
- Movement-related parameters modulate cortical activity during imaginary isometric plantar-flexions.** / Nascimento, Omar do ; *Nielsen, Kim Dremstrup* ; Voigt, Michael. I: *Experimental Brain Research*. 2006 ; vol. 171, nr. 1, MAY. s. 78-90
- Biopotentials as command and feedback signals in functional electrical stimulation systems.** / Sinkjær, Thomas ; Haugland, Morten Kristian ; Inmann, Andreas ; Hansen, Morten ; *Nielsen, Kim Dremstrup*. *Medical Engineering & Physics*. 2003 ; vol. 25, nr. 1, JAN. s. 29-40
- The relationship between selective sleep deprivation, nocturnal jaw-muscle activity and pain in healthy men.** / Arima, Taro ; Svensson, Peter ; Rasmussen, C. ; *Nielsen, Kim Dremstrup* ; Drewes, Asbjørn Mohr ; Arendt-Nielsen, Lars. *Journal of Oral Rehabilitation*. 2001 ; vol. 28, s. 140-148
- Multimedia education in headache : The European Neurological Network.** / Russell, M. B. ; *Nielsen, Kim Dremstrup* ; Rasmussen, Cuno ; Schoenen, J. ; Paiva, Teresa. I: *European Journal of Neurology*. 2000 ; vol. 7, s. 355-362
- Causal probabilistic network and power spectral estimation used in sleep stage classification.** / *Nielsen, Kim Dremstrup* ; Kjær, A. ; Jensen, Winnie ; Dyrby, T. ; Andreasen, Lotte N. S. ; Andersen, J. ; Andreassen, Steen. I: *Methods of Information in Medicine*. 1997 ; vol. 36, s. 345-348
- Ambulatory polysomnography using a new programmable amplifier system with on-line digitalization of data : technical and clinical findings.** / Drewes, Asbjørn Mohr ; *Nielsen, Kim Dremstrup* ; Taagholt, S. J. ; Svendsen, Lone ; Bjerregaard, Ketil ; Nilsson, Lars ; Kristensen, Leif E.. *Sleep*. 1996 ; vol. 19, nr. 4, s. 347-354
- Ambulatory recording and power spectral analysis by autoregressive modelling of polygraphic sleep signals in patients suffering from chronic pain.** / *Nielsen, Kim Dremstrup* ; Drewes, A.M. ; Svendsen, L. ; Bjerregård, K. ; Taagholt, S. I: *Methods of Information in Medicine*. 1994 ; vol. 33, s. 76-79
- Computer assisted sleep analysis.** / *Nielsen, Kim Dremstrup*. Aalborg : Aalborg University. Department of Medical Informatics and Image Analysis, 1993. 130 s. PhD-dissertation, ISBN 87-984421-0-4
- Sleep and different symptoms in primary fibromyalgia and in normal controls.** / Jennum, P. ; Drewes, A.M. ; Andreasen, A. ; *Nielsen, Kim Dremstrup*. *Journal of Rheumatology*. 1993 ; vol. 20, s. 1756-1759
- A simple format for exchange of digitized polygraphic recordings.** / Kemp, B. ; Väri, A. ; Rosa, A.C. ; *Nielsen, Kim Dremstrup* ; Gade, J. *Electroencephalography and Clinical Neurophysiology*. 1992 ; vol. 82, s. 391-393
- Zopiclone in the treatment of sleep abnormalities in fibromyalgia.** / Drewes, A.M. ; Andreasen, A. ; Jennum, P. ; *Nielsen, Kim Dremstrup*. *Scandinavian Journal of Rheumatology*. 1991 ; vol. 20, s. 288-293