

Publications and Reports

Journal Papers

Barstad, Sorteberg and Mesquita (2011) Present and future offshore wind power potential in northern Europe based on down-scaled global climate runs with adjusted SST and sea ice cover, *Journal of Renewable sustainable Energy*.

Aarnes et al, (2011) Wave extremes in the Northeast Atlantic, *Journal of Climate*

Kostandyan, E.E., Sørensen, J.D. (2011) Physics of Failure as a Basis for Solder Elements Reliability Assessment in Wind Turbines, *Reliability Engineering & System Safety*.

Karimi, H.R. (2011), Wavelet-based Optimal Control of a Wind Turbine System: A Computational Approach, *Journal of Advanced Mechanical Design, Systems and Manufacturing*.

Eide, R., Karimi, H.R. (2011) Control Design Methodologies for Vibration Mitigation on wind Turbine Systems, *Vibration Control, INTECH Open Access Publisher* pp. 217-242

Soleimanzadeh, M., Wisniewski, R. (2011) Controller Design for a Wind Farm, Considering both Power and Load Aspects, *Mechanics 2011*

Choi, S.-J., Gudmestad, O.T. (2011) The effect of breaking wave induced currents on an offshore wind turbine foundation, *Fluid Structure interaction VI, WIT Transaction on Built Environment, Vol 115, WIT eLibrary*

Kostandyan, E.E. & J.D. Sørensen (2011b): "Reliability Assessment of Solder Joints by Crack Damage Model in Wind Turbine Applications". *Energies*, Vol. 4, No. 12, pp. 2236-2248.

Eide, R and Karimi, H.R. (2011) "Control Design Methodologies for Vibration Mitigation on wind Turbine Systems", *Vibration Control*, Editor F. Beltran-carbajal, *INTECH Open Access Publisher* pp. 217-242.

Soleimanzadeh, M, Wisniewski, R and Brand, A (2011) "State space representation of wind flow model in a wind farm", *Wind Energy 2011*

Soleimanzadeh, M, Wisniewski, R and Kanev, S (2011) "An Optimization Framework for Load and Power Distribution in Wind Farms", *Journal of wind engineering and industrial aerodynamics*.

Published/Accepted Conference Papers

El-Thalji, I., Liyanage, J.P. (2011) Architecting decision support of Integrated Asset Diagnostic & Prognostic systems: Systems challenges within wind power applications, *Proc. COMADEM 2011*, Stavanger May- June 2011.

Eren N., El-Thalji, I., Liyanage, J.P. (2011) Maintenance optimization practices within wind power systems: State of the art, *Proc. COMADEM 2011*, Stavanger, May-June 2011

Tiusanen R., Jännes J., Reunanen, M., Liyanage, J.P. (2011) RAMSI management – From single analyses to systematic approach, *Proc. COMADEM 2011*, Stavanger, May - June 2011.

El-Thalji, I., Liyanage, J.P. (2011) Design of Wind power systems for Environmental compatibility: A case study on offshore and cold climate from a dependability perspective, *Proc. ISOPE 2011 - 21st International Offshore (Ocean) and Polar Engineering Conference & Exhibition*, Maui, Hawaii, June 19th-24th 2011

El-Thalji, I., Liyanage, J.P. (2011) An Asset Management solution for Offshore wind farms based on System dynamics simulation: A case study, *Proc. ISOPE 2011 - The 21st International Offshore (Ocean) and Polar Engineering Conference & Exhibition*. Maui, Hawaii, June 19th-24th 2011

- Tiusanen,R., Jännes, J., Liyanage, J.P. (2011) Framework to assess system risks associated with design and deployment of large scale offshore wind farms in Northern context, Proc. ISOPE 2011 - The 21st International Offshore (Ocean) and Polar Engineering Conference & Exhibition. Maui, Hawaii, June 19th-24th 2011
- Cibulka, J., Ebbesen, M.K., Robbersmyr, K.G. (2011) Modelling of an Induction Machine-Gearbox Transmission with Respect to Condition Monitoring, Proc. COMADEM 2011, Stavanger, Norway, May 30th-June 1st,.
- Scholz-Reiter, B., Karimi, H.R., Lütjen, M. J., Heger, J., Schweizer, A. (2011) Weather-dependend scheduling of offshore installation processes, Proc. COMADEM 2011, Stavanger Norway, May 30th-June 1st.
- Karimi, H.R. (2011) Vibration Control of a Base-Isolated Building using Wavelets, IFAC World Congress, Milano, Italy, 2011
- Nguyen, T.H., Prinz, A. Friisø, T. (2011) Reference architecture for remote operations of offshore wind farms, Proc. COMADEM Stavanger, May-June 2011
- Sarkar, A. (2011) An approach to reduce the installation time of a bottom supported offshore wind turbine, Proc. COMADEM 2011, Stavanger, 2011
- Sarkar, A., Gudmestad, O.T., (2011) Installation of monopiles for offshore wind turbines by using end-caps and a subsea holding structure, Proc. OMAE 2011, Rotterdam. OMAE2011-4912
- Sarakoon, S.M.K., Gudmestad, O.T. On the necessity of technology qualification in the offshore wind energy industry, Proc. OMAE 2011, Rotterdam. OMAE2011-49063
- Tyapin, I., Hovland, G. Jorde, J. (2011) Comparison of Markov Theory and Monte Carlo Simulations for Analysis of Marine Operations Related to Installation of an Offshore Wind Turbine, Proc. COMADEM 2011 Conference, Stavanger, May-June 2011.
- Ottestad, M., Nilsen, N., Hansen, M.R. (2011) A Method for Friction Control in Hydraulic Cylinders, Proc COMADEM 2011 Conference Stavanger, May-June 2011.
- Hansen, M.R., Ottestad, M. (2011) Model Based Friction Compensation in Offshore Heave Compensation, Proc. COMADEM 2011 Conference Stavanger, May-June 2011.
- Ebbesen, M. K., Hansen, M.R. (2011) Tool Point Control of Material Handling Crane in Marine Operations, Proc. COMADEM 2011 Conference Stavanger, May-June 2011.
- Bak, M.K., Hansen, M.R., Experimentally Validated Simulation Model of Material Handling Crane, Proc. COMADEM 2011 Conference, Stavanger, May-June 2011
- Kalvig S., Manger E., (2011) Wind turbine simulations comparing the actuator disk approach with a fully resolved rotor simulation, Seventh European PhD Seminar on Wind Energy, 27-28 October 2011, Delft University of Technology, The Netherlands.
- Kalvig S., (2011) Simulation of wave induced wind fluctuation with OpenFOAM. Open Source CFD International Conference 2011, 3-4 November 2011, Paris.
- Winther, N., Kalvig, S.M. (2011) Improved coupled air-sea model for offshore power estimation, Twenty-fourth International Congress on Condition Monitoring and Diagnostics Engineering Management (COMADEM), 30 May –1 June 2011, Stavanger, Norway.
- Brand, AJ and Soleimanzadeh, M (2011) "Two control solutions for wind farm, management and operation on the grid", Offshore Wind Energy 2011, Netherlands 2011 (OWE2011).
- Nguyen, T.H., Prinz, A., Friisø, T. and Nossun, R. (2011) A semantic model for data integration of offshore wind farms, NIK2011, Nov 21-23, Tromsø, Norway
- Sørensen, J.D. & J.J. Nielsen (2011): "Risk-based operation and maintenance for offshore wind turbines" EWEA European Offshore Wind conference, Amsterdam, December, 2011.
- Luo, N, Bottasso, C L, Karimi, H.R and Zapateiro, M (2011) "Semiactive vibration control for floating offshore wind turbines subject to aero-hydro dynamic loads", International Conference on Renewable Energies and Power Quality ,Las Palmas de Gran Canaria, 13-15 April.

Luo, N, Bottasso, C.L Karimi, N.R, and Zapateiro, M (2011), "Analysis and mitigation of dynamic loads in floating offshore wind turbines", Workshop on Control Dynamics, Monitoring and Applications, Caldes de Montbui, Spain, February 7-9.

Sapronova, A. & Barstad, I. (2011). Combining large eddy simulation and artificial neural network to model a wind flow for offshore wind farm. International Conference on Applied Energy (ICAE), 16-18 May 2011, Perugia, Italy.

Sapronova, A. (2011). Neural network model for nowcasting the wind distribution inside the wind park. EWEA Offshore 2011, 29 November – 1 December 2011, Amsterdam, The Netherlands.

Sælen, L., Khalil, M., Melheim, J. A., Hansen, T., Krogstad, P.-Å., Eriksen, P. E. (2011). Near and far wake blind test study for a model turbine using BEM, Conference proceedings, EWEA Offshore 2011, 29 November – 1 December 2011, Amsterdam, The Netherlands.

Reports

Rudjord, M. (2011) Offshore wind – integrated logistics support, Doc.No GLP-11001-001, Grieg Logistics

Bakhoday Paskyabi, M., I. Fer, (2010): Ocean near-surface boundary layer: processes and turbulence measurements, Reports in Meteorology and Oceanography, University of Bergen, Report no. 1-2010, ISBN 82-8116-016-0, 40 pp

Kostandyan, E.E. & J.D. Sørensen (2011): "Reliability analysis of Offshore Wind Turbines: State of the art - Reliability modelling of structural and mechanical components". Report NORCOWE-RR-C-11-WP3-002.

Lohne, K. D., and Kippersund, R. A. (2011) "Ultrasonic condition monitoring for wind turbine blades", NORCOWE Research Report

Hallanger A. & Sand I.Ø. (2012). CFD wake modelling with a generalized BEM wind turbine sub-model. NORCOWE Research report

Hansen, T. (2012). Simulating a model wind turbine using Navier-Stokes CFD – progress report 2011. NORCOWE Research report

Skaar, I.M. & Heggelund, Y. (2012). CFD model reduction for wind farm design – progress report 201. NORCOWE Research Report

Melheim, J.A. & Sælen, L. (2011). Modelling in FLACS-Wind – progress report 2010. NORCOWE Technical Report

Olerud, C. (2011). Power system optimization and challenges – input to WP4.2 NORCOWE. NORCOWE Technical Report Sælen,

L., Khalil, M. & Melheim, J.A., (2012). Modelling in FLACS-Wind – progress report 2011. NORCOWE Research report Sand I.Ø.

(2011). BEM wind turbine modelling with extension to yaw, wind energy capture. NORCOWE Research report Sand I.Ø. (2012).

Quasi steady wind turbine modelling in stochastic wind. NORCOWE Research Report

Sand, I.Ø. (2011). BEM wind turbine modelling with extension to yaw – wind energy capture. NORCOWE Technical Report

Sapronova, A. (2011). Application of artificial intelligence for nowcasting – a literature review. NORCOWE Technical Report

Sapronova, A. (2012). Progress report on ANN and CFD/LES modelling. NORCOWE Research Report

Presentations and Posters

Presentations

Christiansen, S., Knudsen, T., Bak, T. (2011) Optimal Control of a Ballast Stabilized Floating Wind Turbine, IEEE MSC 2011, Denver, USA, September 2011

Karimi, H.R., Bakka, T. (2011) Stochastic Analysis and H-Inf Control of Wind Turbine Systems with Wireless Sensor Networks, Proc. COMADEM 2011, Stavanger, Norway, May 20th - June 1st.

Luo, N., Bottasso, C. L., Karimi, H.R., Zapateiro, M. (2011) Semiactive vibration control for floating offshore wind turbines subject to aero-hydro dynamic loads, International Conference on Renewable Energies and Power Quality, Las Palmas de Gran Canaria, April 13th-15th 2011

Luo, N., Bottasso, C.L., Karimi, H.R., Zapateiro, M. (2011) Analysis and mitigation of dynamic loads in floating offshore wind turbines, Workshop on Control Dynamics, Monitoring and Applications, Caldes de Montbui, Spain, February 7th-9th 2011

Bakka, T., Karimi, H.R. (2011) Wind turbine modelling using the bond graph, IEEE Multi-conference on Systems and Control, Denver, USA, September 2011.

Karimi, H.R., (2011) A Computational Method to Optimal Control of a Wind Turbine System using Wavelets, IEEE Multi-conference on Systems and Control, Denver, USA, September 2011

Soleimanzadeh, M., Wisniewski, R. (2011) An Optimization Framework for Load and Power Distribution in Wind Farms at Low wind speed, IFAC World Congress 2011, Milano, Italy

Soleimanzadeh, M., Brand, A., Wisniewski, R. (2011) A Wind Farm Controller for Load and Power Optimization in a Farm, IEEE MSC, Denver, USA, September 2011

Schläppy, M.-L., Shashkov, A., Dahlgren T. (presenter), Olenin S., (2011) Characterising marine habitats using video-mosaics at a site intended for the first full-scale offshore wind-park in Norway, Mapping the Seafloor for Ocean Renewable Energy Development, GEOHAB conference. Helsinki, May 2-5, 2011

Dahlgren T. (presenter), Heggøy, E., Troedsson, C., Schläppy, M.-L., Shashkov, A., Olenin, S., (2011) Methods Development for Cost-Effective Marine Environmental Monitoring at Offshore Wind Farms in Norwegian Waters. Conference on Wind Energy and Wildlife Impacts. Trondheim May 2-5, 2011

Jenkins, A. Effects of ocean waves, talk, Wind Power R&D seminar – deep sea offshore wind, 20-21 January 2011, Trondheim

Reuder, J., Norwegian met/ocean infrastructure for offshore wind energy research, talk, Wind Power R&D seminar – deep sea offshore wind, 20-21 January 2011, Trondheim

Schläppy M.-L., Shashkov, A., Olenin, S., Heggøy, E., Dahlgren, T. Using video-mosaics to characterise marine habitats from a highly exposed area of Norway's west coast. World Marine Biodiversity Conference, Aberdeen, 25-29 Sept. 2011.

Jenkins, A. D., Ocean wave effects on wind power production, EWEA OFFSHORE November 2011, Amsterdam

Aarnes O. J., Trends in wave height and its relation to cyclone activity – winter seasons (DJF) of 1959-2002, WAVES conference in Hawaii, November 2011

Christiansen, S., Bak, T and Knudsen, T (2011) "Damping Misaligned Wind and Wave Loads on a Floating Wind Turbine", presented at EWEA Offshore Wind 2011, Amsterdam, Nov 29-Dec.1

Karimi, H.R. (2011) "A Computational Method to Optimal Control of a Wind Turbine System using Wavelets", 2011 IEEE Multi-conference on Systems and Control, Denver, USA, September

Reuder, J., Norwegian met/ocean infrastructure for offshore wind energy research, Wind Power R&D seminar – deep sea offshore wind, 20-21 January 2011, Trondheim

Haugan, P.M. (2011) Norwegian Centre for Offshore Wind Energy - NORCOWE. Transatlantic Science Week, Berkeley, USA, October 2011.

Posters

Eliassen, L. (2011) Vortex Methods for Horizontal Axis Wind Turbines, Poster at the 2nd NORCOWE Summer School, Osterøy, August 15th-19th 2011.

Nguyen, T.H., Prinz, A., Friisø, T. (2011) Model-based operations and maintenance for offshore wind, Wind Power R&D seminar – Deep sea offshore wind power, January 2011, Trondheim.

Nguyen, T.H., Prinz, A., Friisø, T., Nossun, R. (2011) Using the IEC 61400-25 Standard and RESTful web services to monitor and control offshore wind operations, EWEA Offshore Wind 2011, Amsterdam, November 29th - December 1st

Flugge, M., Reuder, m., (2011) Atmospheric turbulence measurements close to the ocean surface, poster, Wind Power R&D seminar – deep sea offshore wind, 20-21 January 2011, Trondheim.

Bakhoday Paskyabi, M., Fer, I., Jenkins, A. (2011) Wind-wave and current interactions in the upper ocean, Poster presented at EGU General Assembly, Vienna, Austria, 3-8 April 2011

Kostandyan, E.E. (2011a). "Structural Reliability Approach for Reliability Assessment of Solder Joints in Wind Turbines". NORCOWE Summer School, Osterøy, August, 2011 and Industry Meets Science Seminar NORCOWE, October, 2011, Bergen, Norway.

Kostandyan, E.E. (2011b): "Damage Model for Reliability Assessment of Solder Joints in Wind Turbines", Poster EAWE 2011, - Delft University, October 2011.