Christian Bak - DTU Orbit (03/02/2018)
Bak, Christian
chba@dtu.dk
Department of Wind Energy - Senior Scientist
Aerodynamic design

Publications:

A semi-empirical airfoil stall noise model based on surface pressure measurements
Publication: Research - peer-review › Journal article – Annual report year: 2016

Potential solution for rain erosion of wind turbine blades
Publication: Research - peer-review › Sound/Visual production (digital) – Annual report year: 2017

A novel full scale experimental characterization of wind turbine aero-acoustic noise sources - preliminary results
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Full scale wind turbine test of vortex generators mounted on the entire blade
Publication: Research - peer-review › Conference article – Annual report year: 2016

Validation of an Aero-Acoustic Wind Turbine Noise Model Using Advanced Noise Source Measurements of a 500kW Turbine
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

What is the critical height of leading edge roughness for aerodynamics?
Publication: Research - peer-review › Conference article – Annual report year: 2016

Aerodynamic noise characterization of a full-scale wind turbine through high-frequency surface pressure measurements
Publication: Research - peer-review › Journal article – Annual report year: 2015

Aero-Elastic Optimization of a 10 MW Wind Turbine
Publication: Research › Sound/Visual production (digital) – Annual report year: 2015

Aero-Elastic Optimization of a 10 MW Wind Turbine
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015
Basic Principles and Evidences of Wind Turbine Noise Generation Mechanisms
Bertagnolio, F., Aagaard Madsen, H., Fischer, A. & Bak, C. 2015
Publication: Research › Sound/Visual production (digital) – Annual report year: 2015

Concurrent Aeroservoelastic Design and Optimization of Wind Turbines
Publication: Research › Ph.D. thesis – Annual report year: 2016

Experimental Characterization of Stall Noise Toward its Modelling
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Increase in the Annual Energy Production due to a Retrofit of Vortex Generators on Blades
Publication: Research › Sound/Visual production (digital) – Annual report year: 2016

Rotor Design Optimization Tools and Cost Models
Publication: Research › Sound/Visual production (digital) – Annual report year: 2015

Wind turbine fatigue damage evaluation based on a linear model and a spectral method
Publication: Research - peer-review › Journal article – Annual report year: 2015

Airfoil design: Finding the balance between design lift and structural stiffness
Publication: Research - peer-review › Conference article – Annual report year: 2014

Comprehensive Aerodynamic Analysis of a 10 MW Wind Turbine Rotor Using 3D CFD
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

CopenHybrid - Udvikling af CO2 neutrait byrumsarmatur - Fase 1.5 - Slutrapport
Publication: Research › Report – Annual report year: 2015

Correlation of amplitude modulation to inflow characteristics
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015

Cyclic pitch for the control of wind turbine noise amplitude modulation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Design of the LRP airfoil series using 2D CFD
Zahle, F., Bak, C., Sørensen, N. N., Vronsky, T. & Gaudern, N. 2014 In : Journal of Physics: Conference Series (Online). 524, 1, 10 p., 012020
Publication: Research - peer-review › Conference article – Annual report year: 2014
Effects of gain-scheduling methods in a classical wind turbine controller on wind turbine aeroservoelastic modes and loads
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Full-scale test of trailing edge flaps on a Vestas V27 wind turbine: active load reduction and system identification
Publication: Research - peer-review › Journal article – Annual report year: 2013

Investigation of the dependency of wind turbine loads on the simulation time
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Measurements on full scale megawatt turbines
Publication: Communication › Report chapter – Annual report year: 2014

Parametric approximation of airfoil aerodynamic coefficients at high angles of attack
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Prediction of the Effect of Vortex Generators on Airfoil Performance
Publication: Research - peer-review › Conference article – Annual report year: 2014

The Effect of Mounting Vortex Generators on the DTU 10MW Reference Wind Turbine Blade
Publication: Research - peer-review › Conference article – Annual report year: 2014

Aerodynamic characteristics of wind turbine blade airfoils
Publication: Research - peer-review › Book chapter – Annual report year: 2013

Aerodynamic design of wind turbine rotors
Publication: Research - peer-review › Book chapter – Annual report year: 2013

CopenHybrid – Development of a CO2 neutral hybrid street lighting system for the Danish municipalities’ illumination classes
CopenHybrid – Development of a CO2 Neutral Hybrid Street Lighting System for the Danish Municipalities' Illumination Classes

DANAERO MW: Final Report

Danmarks Nationale Vindtunnel
Bak, C. 2013

Den nationale vindtunnel
Bak, C. 2013

Den selvforsynende gadelampe er på vej
Poulsen, P. B. & Bak, C. 2013 In: Dynamo.

Developing the basis for the design of a 10 MW lightweight rotor

Experimental and numerical investigation of 3D aerofoil characteristics on a MW wind turbine

Experimental investigation of small wind turbines on hybrid street lamps

Rotor Performance Enhancement Using Slats on the Inner Part of a 10MW Rotor

Status of the new wind tunnel
Bak, C. 2013
The DTU 10-MW Reference Wind Turbine
Publication: Research › Sound/Visual production (digital) – Annual report year: 2013

Udvikling af CO2 neutralt byrumsarmatur: Slutrapport
Publication: Research › Report – Annual report year: 2013

Wind Turbines on CO2 Neutral Luminaries in Urban Areas
Publication: Research › Sound/Visual production (digital) – Annual report year: 2013

Aerodynamic optimization of wind turbine rotors using a blade element momentum method with corrections for wake rotation and expansion
Døssing, M., Aagaard Madsen, H. & Bak, C. 2012 In: Wind Energy. 15, 4, p. 563-574
Publication: Research - peer-review › Journal article – Annual report year: 2011

Analysis of 3D Stall Models for Wind Turbine Blades Using Data from the MEXICO Experiment
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

CO2 neutralt armatur – CopenHybride
Publication: Research - peer-review › Sound/Visual production (digital) – Annual report year: 2012

Design and Wind Tunnel Testing of a Thick, Multi-Element High-Lift Airfoil
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Light Rotor: The 10-MW reference wind turbine
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012
On the potential load reduction on wind turbines by flap control using measurements of local inflow to the blades
Aagaard Madsen, H., Fischer, A., Larsen, T. J. & Bak, C. 2012
Publication: Research › Sound/Visual production (digital) – Annual report year: 2012

Parametric Study of Composite Blade to Improve the Wind Turbine Response
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Quantification of the Effects of Using Slats on the Inner Part of a 10MW Rotor
Publication: Research - peer-review › Article in proceedings – Annual report year: 2012

Quantification of the Effects of Using Slats on the Inner Part of a 10MW Rotor
Gaunaa, M., Zahle, F., Sørensen, N. N. & Bak, C. 2012
Publication: Research - peer-review › Poster – Annual report year: 2012

Aeroelastic rotor design minimizing the loads
Publication: Research › Conference abstract in proceedings – Annual report year: 2011

DAN-AERO MW: Measured airfoil characteristics for a MW rotor in atmospheric conditions
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Design and test of a thick, flatback, high-lift multi-element airfoil
Publication: Research › Conference abstract in proceedings – Annual report year: 2011

Enhanced BEM including wake expansion and swirl
Publication: Research › Conference abstract in proceedings – Annual report year: 2011

Full Scale Test SSP 34m blade, Combined load. Data report
Publication: Research › Report – Annual report year: 2011

Optimization of the Wind Turbine Rotor to Enhance the Performance
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Slender blades reduce the loads
Publication: Research › Conference abstract in proceedings – Annual report year: 2011
The DAN-AERO MW experiments
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

The DAN-AERO MW Experiments: Final report
Publication: Research › Report – Annual report year: 2010

The potentials of the controllable rubber trailing edge flap (CRTEF)
Aagaard Madsen, H., Andersen, P. B., Legstrup Andersen, T., Bak, C., Buhl, T. & Li, N. 2010 EWEC 2010 Proceedings online. European Wind Energy Association (EWEA)
Publication: Research › Article in proceedings – Annual report year: 2010

Thick Multiple Element Airfoils for use on the Inner Part of Wind Turbine Rotors
Publication: Research - peer-review › Journal article – Annual report year: 2010

Trailing Edge Noise Model Validation and Application to Airfoil Optimization
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Validation and modification of the Blade Element Momentum theory based on comparisons with actuator disc simulations
Publication: Research - peer-review › Journal article – Annual report year: 2010

Wind Tunnel Test of a Closed Loop Controller for an Airfoil with Trailing Edge Flaps
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Wind tunnel test on airfoil Riso-B1-18 with an Active Trailing Edge Flap
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

A dynamic stall model for airfoils with deformable trailing edges
Andersen, P. B., Gaunaa, M., Bak, C. & Hansen, M. H. Nov 2009 In : Wind Energy. 12, 8, p. 734-751
Publication: Research - peer-review › Journal article – Annual report year: 2009

Comparison and validation of trailing edge noise models
Publication: Research › Article in proceedings – Annual report year: 2009

Design and test of a controllable rubber trailing edge flap
Publication: Research › Conference abstract in proceedings – Annual report year: 2009

Design of a wind turbine rotor for maximum aerodynamic efficiency
Publication: Research - peer-review › Journal article – Annual report year: 2009
Design of High Lift Airfoils With Low Noise and High Aerodynamic Performance
Publication: Research › Report chapter – Annual report year: 2009

Design of low noise airfoil with high aerodynamic performance
Publication: Research › Article in proceedings – Annual report year: 2009

Experimental validation of TNO trailing edge noise model and application to airfoil optimization
Bertagnolio, F., Aagaard Madsen, H. & Bak, C. 2009 EWEC 2009 Proceedings online. EWEC
Publication: Research › Article in proceedings – Annual report year: 2009

Pitot tube designed for high frequency inflow measurements on MW wind turbine blades
Publication: Research › Article in proceedings – Annual report year: 2009

Thick Airfoils and High Lift
Publication: Research › Book chapter – Annual report year: 2009

Validation of and Airfoil Optimization with Trailing Edge Noise Model
Publication: Research › Book chapter – Annual report year: 2009

Blade design and other activities in the Aeroelastic Design Group
Bak, C. 2008
Publication: Research › Sound/Visual production (digital) – Annual report year: 2008

Current aerodynamic research activities and recent results from Risø DTU
Publication: Research › Article in proceedings – Annual report year: 2008

Design and verification of airfoils resistant to surface contamination and turbulence intensity
Publication: Research › Article in proceedings – Annual report year: 2008

Implementing a dynamic stall model for airfoils with deformable trailing edges
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Integrating deformable trailing edge geometry in modern Mega-Watt wind turbine controllers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008
Latest results and future activities at Risø DTU within trailing edge flaps
Publication: Research › Sound/Visual production (digital) – Annual report year: 2008

Load alleviation on wind turbine blades using variable airfoil geometry
Buhl, T., Gaunaa, M., Andersen, P. B. & Bak, D. C. 2008
Publication: Research › Sound/Visual production (digital) – Annual report year: 2008

Nyt profil i LM’s vindtunnel: Høj effektivitet og ruhedsfølsomhed
Bak, C. 2008
Publication: Research › Sound/Visual production (digital) – Annual report year: 2008

Research in aeroelasticity EFP-2007
Publication: Research › Report – Annual report year: 2008

Verification of airfoil design with focus on transition
Publication: Research › Book chapter – Annual report year: 2008

Vinger med flapper: Hvor tæt er vi på at kunne efterligne fuglens vinger?
Publication: Research › Conference abstract for conference – Annual report year: 2008

3D Navier-Stokes simulations of a rotor designed for maximum aerodynamic efficiency
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

A detailed investigation of the blade element momentum (BEM) model based on analytical and numerical results and proposal for modifications of the BEM model
Publication: Research - peer-review › Conference article – Annual report year: 2007

A dynamic stall model for airfoils with deformable trailing edges
Andersen, P. B., Gaunaa, M., Bak, D. C. & Hansen, M. H. 2007 In : Journal of Physics Conference Series. 75, 10 p., 012028
Publication: Research - peer-review › Journal article – Annual report year: 2007

Key parameters in aerodynamic rotor design
Publication: Research › Book chapter – Annual report year: 2007

Load alleviation on wind turbine blades using variable airfoil geometry
Buhl, T., Bak, D. C., Gaunaa, M. & Andersen, P. B. 2007
Publication: Research › Conference abstract for conference – Annual report year: 2007
Load alleviation on wind turbine blades using variable airfoil geometry. Adapwing 1 and 2
Gaunaa, M., Andersen, P. B., Bak, D. C. & Buhl, T. 2007
Publication: Research › Conference abstract for conference – Annual report year: 2007

Load alleviation through adaptive trailing edge control surfaces: ADAPWING overview
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Research in aeroelasticity EFP-2006
Bak, D. C. (ed.) 2007 Risø National Laboratory. 118 p. (Denmark. Forskningscenter Risoe. Risoe-R; No. 1611(EN)).
Publication: Research › Report – Annual report year: 2007

Sensitivity of key parameters in aerodynamic wind turbine rotor design on power and energy performance
Bak, D. C. 2007 In : Journal of Physics: Conference Series (Online). 75, p. 10
Publication: Research - peer-review › Conference article – Annual report year: 2007

Wind tunnel test of the Risø-B1-18 airfoil with piezo ceramic actuators to vary the shape
Publication: Research › Paper – Annual report year: 2007

Wind tunnel test on wind turbine airfoil with adaptive trailing edge geometry
Publication: Research - peer-review › Article in proceedings – Annual report year: 2007

Wind turbine airfoil design considering aerodynamic and structural characteristics in 3D blade design
Bak, D. C., Andersen, P. B. & Gaunaa, M. 2007
Publication: Research › Paper – Annual report year: 2007

An investigation of inboard rotor/blade aerodynamics and its influence on blade design
Aagaard Madsen, H., Johansen, J., Bak, C. & Sørensen, N. N. 2006
Publication: Research › Conference abstract for conference – Annual report year: 2006

Inboard rotor/blade aerodynamics and its influence on blade design
Publication: Research › Book chapter – Annual report year: 2006

Load alleviation on wind turbine blades using variable airfoil geometry
Andersen, P. B., Gaunaa, M., Bak, C. & Buhl, T. 2006 Proceedings (online). Brussels: European Wind Energy Association (EWEA)
Publication: Research › Article in proceedings – Annual report year: 2006

Load alleviation on wind turbine blades using variable airfoil geometry
Bak, C., Buhl, T., Gaunaa, M. & Andersen, P. B. 2006
Publication: Research › Conference abstract for conference – Annual report year: 2006
Load alleviation on wind turbine blades using variable airfoil geometry
Andersen, P. B., Gaunaa, M., Bak, C. & Buhl, T. 2006
Publication: Research › Conference abstract for conference – Annual report year: 2006

New airfoil family considering structural stiffness and compatibility
Publication: Research - peer-review › Book chapter – Annual report year: 2006

Numerical Investigation of a wind turbine rotor with an aerodynamically redesigned hub-region
Johansen, J., Aagaard Madsen, H., Sørensen, N. N. & Bak, C. 2006 Proceedings (online). Brussels: European Wind Energy Association (EWEA)
Publication: Research › Article in proceedings – Annual report year: 2006

Performance of the Risø-B1 airfoil family for wind turbines
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Research in aeroelasticity EFP-2005
Bak, C. (ed.) 2006 107 p. (Denmark. Forskningscenter Risoe. Risoe-R; No. 1559(EN)).
Publication: Research - peer-review › Report – Annual report year: 2006

Three-dimensional corrections of airfoil characteristics based on pressure distributions (paper and poster)
Bak, C., Johansen, J. & Andersen, P. B. 2006 Proceedings (online). Brussels: European Wind Energy Association (EWEA)
Publication: Research › Article in proceedings – Annual report year: 2006

3D correction of airfoil data based on pressure
Bak, C. & Johansen, J. 2005
Publication: Research › Conference abstract for conference – Annual report year: 2005

Forskning i aeroelasticitet EFP-2004
Bak, C. (ed.) 2005 82 p. (Denmark. Forskningscenter Risoe. Risoe-R; No. 1509(DA)).
Publication: Research - peer-review › Report – Annual report year: 2005

Load reduction potential using airfoils with variable trailing edge geometry
Publication: Research - peer-review › Article in proceedings – Annual report year: 2005

Load reduction potential using airfoils with variable trailing edge geometry
Buhl, T., Gaunaa, M. & Bak, C. 2005 presented at the 42. AIAA aerospace sciences meeting and exhibit.
Publication: Research › Conference abstract in proceedings – Annual report year: 2005

Measurements on the Thunder TH-6R actuator
Buhl, T., Gaunaa, M., Bak, C., Hansen, P. & Clemmensen, K. 2005 22 p. (Denmark. Forskningscenter Risoe. Risoe-R; No. 1537(EN)).
Publication: Research › Report – Annual report year: 2005

Metode til 3D korrektion af profildata
Publication: Research - peer-review › Book chapter – Annual report year: 2005
Aerodynamikken ved skærpning af vingers bagkanter
Bak, C. 2003 6 p. (Resultatblad AED-RB; No. 15(DA)).
Publication: Research › Report – Annual report year: 2003

Harnessing the wind
Bak, C. 2003
Publication: Research › Conference abstract for conference – Annual report year: 2003

Present status of aeroelasticity of wind turbines
Publication: Research - peer-review › Journal article – Annual report year: 2003

Status of the Risoe wind turbine airfoils
Publication: Research › Article in proceedings – Annual report year: 2003

Wind tunnel measurements on two Rise-B1 airfoils
Publication: Research › Article in proceedings – Annual report year: 2003

Wind tunnel tests of Rise-B1-18 and Risø-B1-24
Fuglsang, P., Bak, C., Gaunaa, M. & Antoniou, I. 2003 82 p. (Denmark. Forskningscenter Risoe. Risoe-R; No. 1375(EN)).
Publication: Research › Report – Annual report year: 2003

Dynamic stall
Bak, C. 2002
Publication: Research › Conference abstract for conference – Annual report year: 2002

Evaluation of the Prandtl tip correction for wind turbine computations (poster)
Publication: Research › Article in proceedings – Annual report year: 2002

Modification of the NACA 632-415 leading edge for better aerodynamic performance
Publication: Research - peer-review › Journal article – Annual report year: 2002

Site-specific design optimization of wind turbines
Publication: Research - peer-review › Journal article – Annual report year: 2002

Undersejelse af tiptabskorrektion
Publication: Research › Book chapter – Annual report year: 2002

Wind power technology. Aeroelasticity. Aerodynamics
Bak, C. 2002
Publication: Research › Conference abstract for conference – Annual report year: 2002
Aerodynamics and loads: Aeroelastics, safety and performance
Bak, C. 2001
Publication: Research › Conference abstract for conference – Annual report year: 2001

Aerodynamics and loads, Aeroelastics, safety and performance
Bak, C. 2001
Publication: Research › Conference abstract for conference – Annual report year: 2001

Aerodynamik og mekanik i vindmøller
Bak, C. 2001
Publication: Research › Conference abstract for conference – Annual report year: 2001

Aeroelasticitet
Bak, C. & Hansen, M. H. 2001
Publication: Education › Compendium/lecture notes – Annual report year: 2001

Airfoil design
Publication: Research › peer-review › Book chapter – Annual report year: 2001

Design af profilserie
Publication: Research › peer-review › Book chapter – Annual report year: 2001

Design and verification of the new Risø-A1 airfoil family for wind turbines
Publication: Research › peer-review › Article in proceedings – Annual report year: 2001

Influence from blade-tower interaction on fatigue loads and dynamics (poster)
Publication: Research › Article in proceedings – Annual report year: 2001

Måling og beregning af aerodynamisk støj samt optimering af vingetipper på vindmøller
Publication: Research › Report – Annual report year: 2001

Modification of the NACA 632-415 leading edge for better aerodynamic performance
Publication: Research › peer-review › Article in proceedings – Annual report year: 2001

Risø airfoil design philosophy
Fuglsang, P. & Bak, C. 2001
Publication: Research › Conference abstract for conference – Annual report year: 2001

Site specific design of wind turbines based on numerical optimisation
Publication: Research › Article in proceedings – Annual report year: 2001
Wind turbine aerodynamics
Bak, C. 2001
Publication: Research › Conference abstract for conference – Annual report year: 2001

Yawberegning i HAWC
Publication: Research - peer-review › Book chapter – Annual report year: 2001

Investigation of the aerodynamic interaction between wind-turbine rotor blades and the tower and its impact on wind turbine design (ROTOW). Task 6 report
Publication: Research › Conference abstract for conference – Annual report year: 2000

Investigation of the aerodynamic interaction between wind-turbine rotor blades and the tower and its impact on wind turbine design (ROTOW). Work package 2 report. Risø contribution
Publication: Research › Report – Annual report year: 2000

Modification of the NACA 63-415 leading edge to avoid double stall
Publication: Research › Article in proceedings – Annual report year: 2000

Wind tunnel tests of the NACA 63-415 and a modified NACA 63-415 airfoil
Publication: Research - peer-review › Book chapter – Annual report year: 2000

Airfoil characteristics for the LM 19.1 blade derived from 3D CFD
Publication: Research › Article in proceedings – Annual report year: 1999

Airfoil characteristics for wind turbines
Publication: Research › Report – Annual report year: 1999

Derivation of airfoil characteristics for the LM 19.1 blade based on 3D CFD rotor calculations
Publication: Research › Article in proceedings – Annual report year: 1999

Modification of the NACA 63-415 leading edge to avoid double stall
Fuglsang, P. & Bak, C. 1999
High Reynolds Number Rotor Design
Kiefer, J., Hansen, M. O. L., Bak, C. & Hultmark, M.
01/09/2017 → 31/08/2020
Project: PhD

Aero-acoustic wind tunnel tests
Lylloff, O. A., Fischer, A., Bak, C. & Fernandez Grande, E.
01/02/2017 → 31/01/2020
Project: PhD

Optimal Design of Wind Turbine Blades for Additive Manufacturing Techniques
Fernandez Perez, M., Bak, C., Andersen, P. B. & Blasques, J. P. A. A.
01/10/2015 → 30/09/2018
Project: PhD

Quantifying leading edge roughness on wind turbine blades
Kruse, E. K., Bak, C., Bentzen, T. R. & Sørensen, N. N.
01/10/2015 → 31/03/2019
Project: PhD

Light Weight Rotor Design - Combined passive and active control methods
Pavese, C., Kim, T., Henriksen, L. C., Larsen, T. J., Bak, C., Kallesøe, B. S. & Palacios, R.
15/12/2013 → 20/04/2017
Project: PhD

Windtrust
Bak, C., Fischer, A. & Bertagnolio, F.
01/09/2013 → 31/08/2016
Project

Standardiserede Power Packs til forbedret aerodynamik i vindmøller - PowerPack
Bak, C., Gaunaa, M. & Zahle, F.
01/01/2013 → 31/12/2015
Project

Power Pack
Bak, C., Gaunaa, M., Skrzypinski, W. R., Zahle, F. & Sørensen, N. N.
01/01/2013 → 31/12/2015
Project

National Wind Tunnel
Bak, C., Fischer, A., Gaunaa, M., Mikkelsen, R. F., Mann, J. & Barlas, A.
15/08/2012 → 31/12/2016
Project

Concurrent aero-servo-elastic design and optimization of wind turbines
Tibaldi, C., Bak, C., Henriksen, L. C., Stolpe, M., Riziotis, V. A. & Winther Stærdahl, J.
01/11/2011 → 21/05/2015
Project: PhD

Development of a carbon neutral luminaire for the urban environment
01/01/2011 → 31/12/2012
Project

**Light Rotor**

Project

**Light Rotor**
Bak, C., Zahle, F., Kim, T., Yde, A., Sørensen, N. N., Gaunaa, M. & Skrzypinski, W. R. 01/10/2010 → 31/05/2014

Project

**Highly flexible wind turbine rotor design**

Project: PhD

**DANAERO MW II: Indflydelse af atmosfære- og kælvandsturbulens på MW møllers ydeevne, last og stabilitet**
Bak, C., Aagaard Madsen , H., Troldborg, N., Bertagnolio, F. & Sørensen, S. A. 01/01/2010 → 31/12/2012

Project

**Analysis and modeling of unsteady aerodynamics with application to wind turbine blade vibration at standstill conditions**

Project: PhD

**Strukturelt design af fremtidens store vinger under kombineret last**
Bialas, Z., Branner, K., Bak, C. & Berggreen, C. 01/12/2008 → 15/09/2012

Project: PhD

**Urban Wind energy**

Project: PhD

**Optimization of Rotors - using Advanced Aerodynamic and Aeroelastic Models and Numerical Optimization**
Døssing, M., Bak, C., Gaunaa, M., Aagaard Madsen , H., Hansen, M. O. L., Riziotis, V. A. & Wedel-Heinen, J. J. 01/02/2008 → 01/06/2011

Project: PhD

**Wind Turbine with Trailing Edge Flaps for Load Alleviation**
Andersen, P. B., Poulsen, N. K., Bak, C., Buhl, T., Gaunaa, M., Knudsen, T., Wedel-Heinen, J. J. & van Kuik, G. A. M. 01/10/2006 → 30/06/2010

Project: PhD

**Turbulensmodeltering**
Bak, C. & Sørensen, J. N. 01/02/1996 → 01/02/1996

Project: PhD

Activities:
The Poul la Cour Tunnel: A new aerodynamic and aeroacoustic wind tunnel dedicated to wind energy
Bak, C. (Other), Fischer, A. (Other), Mikkelsen, R. F. (Other), Olsen, A. S. (Other), Gaunaa, M. (Other), Fernandez Grande, E. (Other), Skrzypinski, W. R. (Other)
28 Nov 2017 → 30 Nov 2017
Activity: Talks and presentations › Conference presentations

Pitch me
Bak, C. (Panel member)
10 Oct 2017 → 11 Oct 2017
Activity: Talks and presentations › Conference presentations

The Poul la Cour Tunnel & the DTU Research Turbine
Bak, C. (Guest lecturer)
2 Oct 2017
Activity: Talks and presentations › Conference presentations

Test possibilities in the Poul la Cour Tunnel
Bak, C. (Speaker), Fischer, A. (Other), Mikkelsen, R. F. (Other), Olsen, A. S. (Other), Gaunaa, M. (Other), Skrzypinski, W. R. (Other), Fernandez Grande, E. (Other)
26 Jun 2017
Activity: Talks and presentations › Conference presentations

Investigation of the flow in a rain erosion tester
Bak, C. (Speaker), Sørensen, N. N. (Other), Olsen, A. S. (Other), Bech, J. I. (Other), Gaunaa, M. (Other), Kusano, Y. (Other)
27 Feb 2017
Activity: Talks and presentations › Conference presentations

ON-SHORE SERVICE AND MAINTENANCE
Bak, C. (Invited speaker)
8 Nov 2016
Activity: Talks and presentations › Guest lectures, external teaching and course activities at other universities

Wind Energy Denmark
Bak, C. (Invited speaker)
27 Oct 2016
Activity: Talks and presentations › Conference presentations

Blade Inspection Damage and Repair Forum
Bak, C. (Invited speaker)
10 Oct 2016
Activity: Talks and presentations › Conference presentations

DanmarksNationaleVindtunnel: Præsentation ved "Første spadestik" 22. juni 2016
Bak, C. (Invited speaker)
22 Jun 2016
Activity: Talks and presentations › Conference presentations

Acoustic Day 2016
Bak, C. (Organizer)
18 May 2016
Activity: Attending an event › Participating in or organising a conference

Forskningens Døgn i Roskilde
Bak, C. (Participant)
30 Apr 2016
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.
Impact of leading edge roughness and erosion on the annual energy production and how to improve it with aerodynamic devices
Bak, C. (Speaker)
10 Dec 2015
Activity: Talks and presentations › Conference presentations

Wind Turbines
Bak, C. (Lecturer)
10 Nov 2015
Activity: Talks and presentations › Conference presentations

Reducing the Sensitivity to Leading Edge Roughness and Enhancing AEP and Long-Term Performance by Applying Aerodynamic Devices
Bak, C. (Speaker)
29 Sep 2015
Activity: Talks and presentations › Conference presentations

The DTU 10MW Reference Wind Turbine
Bak, C. (Lecturer)
15 Sep 2015
Activity: Talks and presentations › Conference presentations

Challenges in developing +10 MW Wind Turbines
Bak, C. (Lecturer)
2 Jun 2015
Activity: Talks and presentations › Conference presentations

IQPC Conference - Advances in Rotor Blades for Wind Turbines
Bak, C. (Speaker)
26 Feb 2015
Activity: Talks and presentations › Conference presentations

International Conference on Giant Offshore Wind Turbines
Bak, C. (Participant)
24 Nov 2014
Activity: Attending an event › Participating in or organising workshops, courses, seminars etc.

Aerodynamics on Eroded Blades and How to Improve AEP
Bak, C. (Lecturer)
11 Sep 2014
Activity: Talks and presentations › Conference presentations

Præsentation om planerne om en vindtunnel på DTU
Bak, C. (Lecturer)
7 Nov 2012
Activity: Talks and presentations › Conference presentations

Præsentation om planerne om en vindtunnel på DTU
Bak, C. (Lecturer)
18 Sep 2012
Activity: Talks and presentations › Conference presentations

Airfoil design
Bak, C. (Lecturer)
1 Aug 2011 → 5 Aug 2011
Activity: Talks and presentations › Guest lectures, external teaching and course activities at other universities

Press clippings:

Spørg Scientariet: Hvorfor er vindmøller ikke udstyret med winglets som fly?
Christian Bak
12/07/2016
1 media contribution
Press / Media

Risø i gang med at bygge 'verdens bedste' vindtunnel
Christian Bak
27/08/2016
1 media contribution
Press / Media

Risø-forsker: 50 m/s havde skubbet kronprinsens bil af Storebæltsbroen
Christian Bak
15/01/2015
1 media contribution
Press / Media

The Danish National Wind Tunnel moving into detailed design phase
Christian Bak
01/04/2014
1 media contribution
Press / Media

Vingeforkanter er som dækkene på en bil
Christian Bak
08/12/2013
1 media contribution
Press / Media

Metropol om grøn energi
Christian Bak
27/08/2013
1 media contribution
Press / Media

Forsker: Lygtepæl skal producere egen strøm
Christian Bak
19/04/2013
1 media contribution
Press / Media

Metropol Grøn Teknologi
Christian Bak
16/04/2013
1 media contribution
Press / Media
DTU's nye vindtunnel kan blæse tre orkaner
Christian Bak
25/05/2012
1 media contribution
Press / Media