

Curriculum Vitae

Name: Vasilis A. Riziotis
Place of birth: Athens
Date of birth: 21 October 1971
Organisation: National Technical University of Athens, School of Mechanical Engineering, Fluids Section
Position: Faculty member - Lecturer
Work address: National Technical University of Athens, 9 Heron Polytechniou str., 15780, Zografou, Athens, Greece
Home address: Plataion 32A, 15235, Vrilissia, Athens, Greece
Marital status: Married, with two children

1. Degrees

1994: Diploma in Mechanical Engineering

2003: Ph.D. in Mechanical Engineering

2. Career

1995 - 2003 Research Associate and Ph.D. candidate of Mechanical Engineering School of the National Technical University of Athens (NTUA).
2003 - 2007 Post Doc Researcher in Mechanical Engineering School of NTUA.
2007 - 2010 Research Engineer (permanent staff), in Mechanical Engineering School (Laboratory of Aerodynamics) of NTUA
2011 Lecturer of the Mechanical Engineering school of NTUA

3. Professional and Research Activitiy

1. 1994-1996 "Load and power measurement programme on wind turbines operating in complex mountainous regions," (funded by DGXII-CEC in the framework of JOULE-II program, contract JOU2-CT93-0378, MOUNTURB, 1994-1996).
2. 1994-1996 "Dynamic stall and 3D effects," (funded by DGXII-CEC in the framework of JOULE-II program, contract JOU2-CT93-0345, 1994-1996).
3. 1996-1999 "Development of Greek HAWT of size 400-500kW and technology of Greek wind turbine blades," (funded by General Secretariat of Research and Technology, program EPET II, 1996-1999).
4. 1996-1997 "Investigation of design aspects and design options for wind turbines operating in complex terrain environments," (funded by DG XII - E.U. in the framework of JOULE-III program, contract JOR3-CT95-0033, COMPTERID, 1996-1997).

5. 1997-2000 "Wind turbine blades equipped with airjet vortex generators: full scale verification of blade optimised for increased performance and manufacturing," (funded by DG XII-EU, JOR3-CT97-0142, AIR-JETS BLADES, 1997-2000).
6. 1998 "Study of the aeroelastic behaviour of Windmasters W800 HAWT," (funded by CRES, 1998).
7. 1998-2000 "Investigation of the aerodynamic interaction between wind turbine rotor blades and the tower and its impact on wind turbine design," (funded by DG XII-EU, contract JOR3-CT98-0237, ROTOW, 1998-2000).
8. 1998-2000 "Viscous and aeroelastic effects on wind turbine blades," (funded by DG XII-EU, contract JOR3-CT98-0208, VISCEL, 1998-2000).
9. 1998-2001 "Verification of European wind turbine design codes," (funded by DG XII-EU, qp. contract JOR3-CT98-0267, VEWTDC, 1998-2001).
10. 1998-2001 "Adaptation of existing wind turbines for operation on high wind speed complex terrain sites; kWh cost reduction," (funded by DG XII-EU, contract JOR3-CT98-0251, ADAPTURB, 1998-2001).
11. 2001-2005 "Development of a MW scale wind turbine for high wind complex terrain sites," (funded by DG XII-EU, contract ENK5-CT2000-328, MEGAWIND, 2001-2005).
12. 2001-2006 "5MW wind energy converter for offshore application," (funded by DG XII-EU, contract NNE5-2000-412, 5MW offshore, 2001-2006).
13. 2002-2006 "HELINOVI – Helicopter noise and vibration reduction," (funded by DG XII-EU, contract G4RD-CT2002-667, HELINOVI, 2002-2006).
14. 2002-2007 "ADYN – Advanced European tiltrotor dynamics and noise," (funded by DG XII-EU, contract G4RD-CT2002-773, ADYN, 2002-2007).
15. 2002-2006 "Aeroelastic stability and control of large wind turbines," (funded by DG XII-EU, contract ENK5-CT2002-627, STABCON, 2002-2006).
16. 2005-2011 "UPWIND – Integrated wind turbine design", (funded by DG XII-EU, contract 019945 (SES6), UPWIND, 2005).
17. 2006-2008 "Technical and mechanical study of the operation of purse seine fishing nets in Greece", (funded by General Secretariat of Research and Technology).
18. 2009 "Aeroelastic Analysis of parked/idling G8x wind turbines", funded by GAMESA Innovation and Technology.
19. 2010 "Aeroelastic Analysis of parked/idling G97 wind turbines", funded by GAMESA Innovation and Technology.
20. 2010 "Aeroelastic Analysis of parked/idling G10x wind turbines", funded by GAMESA Innovation and Technology.
21. 2010 "Knowledge transfer for the development of stability tool", funded by GAMESA Innovation and Technology, program, T10-11 Dynamic and Aeroelastic Developments for WTG and control stable designs.
22. 2011 "Knowledge transfer for the development of stability tool", funded by GAMESA Innovation and Technology, program, T10-11 Dynamic and Aeroelastic Developments for WTG and control stable designs.
23. 2011 "Validation of the Aeroelastic code NEREA for offshore capabilities", funded by GAMESA Innovation and Technology

4. Publications

4.1. Thesis

1. Riziotis, V.A. (1994) "Investigation of the possibility of modeling stall using vortex methods," Diploma Thesis.
2. Riziotis, V.A. (2003) "Aerodynamic and Aeroelastic analysis of stall on wind turbine rotors," PhD Thesis

4.2. Publications in International Journals

1. Riziotis, V.A., Chaviaropoulos, P.K., Voutsinas, S.G. (1996) "Development of a state-of-art aeroelastic simulator for horizontal axis wind turbines," J. Wind Engineering, Vol 20 (6), pp 423-440.
2. Riziotis, V.A., Voutsinas, S.G. (2000) "Fatigue loads on wind turbines of different control strategies operating in complex terrain," J. of Wind Engineering and Industrial Aerodynamics, 85 (2000), pp 211-240.
3. Riziotis, V.A., Voutsinas, S.G., Politis, E.S., Chaviaropoulos, P.K. (2004) "Aeroelastic stability of wind turbines: the problem the methods and the issue," J Wind Energy, 2004, 7, pp 373-392.
4. Riziotis, V.A., Voutsinas, S.G. (2008) "Dynamic stall modeling on airfoils based on strong viscous-inviscid interaction coupling," J. Numerical Methods in Fluids, 2008, 56, pp 185-208.
5. Riziotis, V.A., Voutsinas, S.G., Politis, E.S., Chaviaropoulos, P.K. (2008) "Assessment of passive instability suppression means on pitch regulated wind turbines," J Wind Energy, 2008, 11, pp 171-192.
6. Riziotis, V.A., Voutsinas, S.G., Politis, E.S., Chaviaropoulos, P.K. "Stability analysis of pitch regulated, variable-speed wind turbines in closed loop operation using a linear eigenvalue approach," J Wind Energy, 2008, 11, pp 517-535.
7. Madsen, H.A., Riziotis, V., Zahle, F., Hansen, M.O.L, Snel, H., Grasso, F., Larsen, T.J., Politis, E., Rasmussen, F., "BEM modelling of inflow with shear in comparison with advanced model results," Accepted for publication in J Wind Energy.

4.3. Publications in International Conferences with Peer Review in the whole text

1. Voutsinas, S. G., Riziotis, V. A. (1996) "Vortex Particle Modelling of Stall on Rotors. Application to Wind Turbines," Proceedings of the Fluids Engineering Division Summer Meeting, ASME, San Diego, California, USA.
2. Voutsinas, S.G., Riziotis, V. A., Chaviaropoulos, P. (1997) "Non-Linear Aerodynamics and Fatigue Loading on Wind Turbines Operating at Extreme Sites," 35th AIAA Annual Meeting, Reno, Nevada, U.S.A. AIAA paper 97-0935.

3. Voutsinas S. G., Riziotis V. A., (1999) "A Viscous-Inviscid Interaction Model for Dynamic Stall Simulations on Airfoils", 37th Aerospace Sciences Meeting and Exhibit, Reno, January 11-14, 1999, AIAA paper 99-0038.
4. Voutsinas S. G., Chaviaropoulos, P., Riziotis V. A., Mourikis D. "Profile Stall Characteristics, Aerodynamic Damping and Design Implications for Wind Turbine Blades", 37th Aerospace Sciences Meeting and Exhibit, Reno, January 11-14, 1999, AIAA paper 99-0063.
5. Politis, E.S., Chaviaropoulos, P.K., Riziotis, V.A., Voutsinas, (2004) "Aeroelastic stability of wind turbines: the problem the methods and the issue," Proceedings of the Science of Making Torque from the Wind Conference, Delft, the Netherlands, April 17-21, 2004.
6. Riziotis, V.A., Voutsinas, S.G., Politis, E.S., Chaviaropoulos, P.K. (2006) "Investigation of the stability bounds of wind turbines in view of passive instability suppression," Proceedings of the EWEC '06, Scientific Track, Athens, Greece, February 27 – March 2.
7. Riziotis, V.A., Voutsinas, S.G., (2006) "Advanced aeroelastic modelling of complete wind turbine configurations in view of assessing stability characteristics," Proceedings of the EWEC '06, Scientific Track, Athens, Greece, February 27 – March 2.
8. Riziotis, V.A., Voutsinas, S.G., Politis, E.S., Chaviaropoulos, P.K. "Stability analysis of pitch regulated, variable-speed wind turbines in closed loop operation using a linear eigenvalue approach," the Science of Making Torque from the Wind Conference, Journal of Physics, Conference Series 75 (2007) 012068.
9. Riziotis, V.A., Voutsinas, S.G., (2008) "Aero-elastic modelling of the active flap concept for load control," Proceedings of the EWEC '08, Scientific Track, Brussels, Belgium, March 31 – April 3.
10. Riziotis, V.A., Voutsinas, S.G., Politis, E.S., Chaviaropoulos, P.K., Hansen A.M., Madsen, A.H., Rasmussen, F., (2008) "Identification of structural non-linearities due to large deflections on a 5MW wind turbine blade," Proceedings of the EWEC '08, Scientific Track, Brussels, Belgium, March 31 – April 3.
11. Politis, E.S., Chaviaropoulos, P.K., Riziotis, V.A., Voutsinas, S.G., Romero-Sanz, I., (2009) "Stability analysis of parked wind turbine blades," Proceedings of the EWEC '09, Scientific Track, Marseille, France, March 16-19.
12. Riziotis, V.A., Voutsinas, Manolas, D.I., S.G., Politis, E.S., Chaviaropoulos, P.K., (2010) "Aeroelastic analysis of pre-curved rotor blades," Proceedings of the EWEC '10, Scientific Track, Warsaw Poland, April, 20-23.
13. Politis, E.S., Riziotis, V.A., Voutsinas, S.G., Chaviaropoulos, P.K. (2010) "Assessment of a control strategy for reducing tower loads," Proceedings of the Science of Making Torque from the Wind Conference, Heraklion, Greece, June 28-30, 2010.
14. Riziotis, V.A., Voutsinas, S.G., Politis, E.S., Chaviaropoulos, P.K. (2010) "Stability analysis of parked wind turbine blades using a vortex model," Proceedings of the Science of Making Torque from the Wind Conference, Heraklion, Greece, June 28-30, 2010.
15. Madsen, H.A., Riziotis, V., Zahle, F., Larsen, T.J., Politis, E., Hansen, M.O.L, Snel, H., Grasso, F., "BEM modelling of inflow with shear in comparison with advanced model results," Proceedings of the Science of Making Torque from the Wind Conference, Heraklion, Greece, June 28-30, 2010.

4.4. Publications in International Conferences with Peer Review in an extended abstract

1. Riziotis, V. A., Voutsinas, S. G., Zervos, A. (1996) 'Investigation of the Yaw Induced Stall and its Impact to the Design of Wind Turbines,' Proceedings of the EUWEC'96 , Goteborg, Sweden.
2. Riziotis, V. A. , Voutsinas, S. G. (1997) "Gast: A General Aerodynamic and Structural Prediction Tool for Wind Turbines," Proceedings of the EWEC'97, Dublin, Ireland.
3. Breard Cyrille, Riziotis, V. A., Voutsinas, S. G. (1997) "Fatigue loading on wind turbines operating at extreme sites," Proceedings of the EWEC'97, Dublin, Ireland.
4. Riziotis, V. A., Voutsinas S. G., (1997) "Dynamic Stall on Wind Turbine Rotors: Comparative Evaluation Study of Different Models," Proceedings of the EWEC'97, Dublin, Ireland.
5. Tentzerakis, S.T., Riziotis, V.A., Papadopoulos, M.P., Voutsinas, S.G. (1999) "Evaluation of a voltage source variable speed strategy for class I stall regulated wind turbines," Proceedings of EWEC'99, Nice, March 1999.
6. Mourikis, D.G., Riziotis, V.A., Voutsinas, S.G. (1999) "Length scale effects on fatigue loads calculation procedure," Proceedings of the EWEC'99, Nice, March 1999.
7. Riziotis, V. A., Hizanidi, A., Voutsinas S. G., (2001) "Aeroelastic stability analysis of wind turbine blades using CFD techniques," Proceedings of the EWEC' 01, Copenhagen, Denmark, July 1-7, 2001.
8. Mourikis, D.G., Riziotis, V.A., Voutsinas, S.G. (2004) "Aerodynamic design using genetic algorithms and application to rotor blades," Proceedings of the International Conference on Computational and Experimental Engineering and Sciences, Madeira, Portugal, July 26-29, 2004.
9. Bianchi, E., Russo, A., Fritz, K., Rogelio, F., Dieterich, O., Frosoni, M., Bakker, R., Riziotis, V., Petot, D., Lanz, M. (2004) "Numerical whirl-flutter investigation of the European tiltrotor concept: current status and future prospects," 30th European Rotorcraft forum, Marseilles, France, September, 14-16, 2004.
10. Dieterich, O., Langer, H.J., Sneider, O., Imbert, G., Hounjet, M.H.L., Riziotis, V., Cafarelli, I., Calvo Alonso, R., Clerc, C., Pengel, K. (2005) "HELINOVI: Current vibration Research activities", 31st European Rotorcraft forum, Florence, Italy, September 13-15, 2005.
11. Riziotis, V. A., Voutsinas S. G., (2006) "Modelling of wind tunnel interference on helicopter measurements and assessment of the currently used corrections based on the HeliNovi database," 32nd European Rotorcraft forum, Maastricht, the Netherlands, September 12-14, 2006.
12. Markou, H., Hansen, M.H., Buhl, T., van Engelen, T., Politis, E.S., Riziotis, V., Poulsen, N.K., Larsen, A.J., Mogensen, T.S., Holierhoek, J.G., (2007), "Aeroelastic stability and control of large wind turbines – main results," Proceedings of EWEC' 07, Milan, Italy, May 7-10, 2007.
13. Pournaras, C., Riziotis, V., Kladas, A.,(2008) "Wind turbine control strategy enabling mechanical stress reduction based on dynamic model including blade oscillation effects," Proceedings of the 18th International Conference on Electrical Machines, 2008.
14. Riziotis, V. A., Manolas, D.,I., Voutsinas S. G., (2011), "Advanced Aeroelastic Modeling of Swept Rotor Blades," Proceedings of the EWEC '11, Brussels, Belgium, March 14 – 17.

4.5. Chapters in Books and Lecture series

- 1) S.G. Voutsinas, V.A. Riziotis “Structural modeling and dynamics”
 ”Aeroelastic modeling of wind turbines”
 “Stability analysis and control”
 “Certification of wind turbines”

“Wind Turbine Aerodynamics: a state-of-the-art,” von Karman Institute for Fluid Dynamics, Belgium, Lecture Series 2007-05, edited by J.F. Brouckaert, ISBN 13 978-2-930389-75-3

- 2) V.A. Riziotis, Madsen, H.A., “Aeroelasticity and structural dynamics of wind turbines”

“Wind Energy Systems: Optimising design and construction for safe and reliable operation”, edited by J.D. Soerensen and J. N. Soerensen, Woodhead Energy Series No. 10, ISBN 13 978-1-84569-580-4.