

Curriculum Vitae (2014.05.08)

Shahrokh Shams

Personal Details

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Education

Year	Institution	Qualification
2002-2008	Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran	PhD in Aerospace Engineering , Structural Design of Aerial vehicles, Faculty of Aerospace Engineering <i>Thesis title:</i> 'Investigation of Aeroelastic Behaviour of High Aspect Ratio Flexible Composite Wings Undergoing Geometrical Nonlinearity in Incompressible Flow' GPA: 17.9/20
1999 - 2002	Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran	Master of Science in Aerospace Engineering , Structure, Faculty of Aerospace Engineering <i>Thesis title:</i> 'Dynamics Analysis of Structures with Modal Analysis Method and Investigation of the Flutter Phenomenon on a Wing' GPA: 16.5/20
1995 - 1999	Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran	Bachelor of Science in Aerospace Engineering , Faculty of Aerospace Engineering <i>Thesis title:</i> 'Geometrical Nonlinear Analysis of a Wing and Comparison With The Linear Analysis' GPA: 15.5/20
1991 - 1995	Dr Hessabi High School, for Exemplary Students, Ahwaz, Iran	Mathematics and Physics Diploma , High School for Exemplary Students GPA: 17.7/20

Employment History

Current Post

2012 up to now: Assistant Professor

Department of Aerospace Engineering, Faculty of New Sciences and Technologies, University of Tehran, Tehran, Iran

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Previous Employment History

Dates	Position	Institution
2010 - 2012	Project Engineer of Petroleum and Gas Treatment Projects	Refinery Industries, Project Management Department, SAZEH Consultants Company, Tehran, Iran
2006 - 2010	Manager, Analyzer and Designer of Structure Group	Pars Pajohan Jam Company, Tehran, Iran
2000 - 2006	Manager, Analyzer and Designer of Structure Group	Aviation Industries, Jihad of Sharif University, Tehran, Iran

Skills and Experience

Passed Advanced Courses

- Passing Aeroelasticity, Structural Stability, Advanced Mathematics, Advanced Structural Analysis, Dynamics, Composite Materials Analysis, Finite Elements Methods, and Advanced Numerical Analysis Courses in Amirkabir University of Technology, Tehran, Iran (1995-2008).
- Passing PMBOK Courses in SAZEH Company (2012).
- Passing Petroleum/Gas Treating Technology Courses for EPC Projects (2010).
- Getting Band Score 5 in IELTS exam, International Exam, Iran, British Council (2010).
- Passing the EFQM Courses (2009).
- Passing the Technology Management Courses (2003).
- Getting Band Score 520 in TOEFEL exam, Private Exam, Amirkabir University of Technology, Tehran, Iran (2003)
- Learning French Language, A1 level (2014).

Teaching Experience

I have taught students across a wide age range and have the following experiences:

- Teaching: Aeroelasticity, Continuum Mechanics, Mechanics of Composite Material and Flight Dynamics to MSc students in aerospace engineering, Faculty of New Sciences and Technologies, University of Tehran, Tehran, Iran (2012- up to now).
 - Teaching: Advanced Structural Design of Aerial vehicles to MSc students in aerospace engineering, Faculty of Aerospace Engineering, Sharif University of Technology (2011).
 - Teaching: Experimental Aerodynamics to BSc students in aerospace engineering, Faculty of Aerospace Engineering, Amirkabir University of Technology, Tehran, Iran (2011).
 - BSc and MSc students supervision in aerospace engineering, Aeroelasticity and Aerial Vehicles' Structural Design(1995-up to now)
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Professional Experience

- Developing a Code in Nonlinear Aeroelastic Behaviour of Wind Turbine Blades (2013-now).
 - Coordinating between Engineering Disciplines of Petroleum and Gas Treating Projects as a Project Engineer, SAZEH Consultants Company, Tehran, Iran (2010 - 2012).
 - Adept in Reviewing and Commenting the Vendor Documents of Stationary/Rotary Equipment for Petroleum and Gas Treating Projects, SAZEH Consultants Company, Tehran, Iran (2010 - 2012).
 - Developing a Code in Nonlinear Aeroelasticity of High Aspect Ratio Composite Wing (2002-2008).
 - Project Manager of National Project of Designing and Manufacturing of "*Farnas*" Human Powered Aircraft (HPA), (2004-2006).
 - Project Manager of National Project of Design and Manufacturing of "*Orooj*" Solar Powered Aircraft (SPA), (2003-2004).
 - Manager and Head Designer of Structural Group in the Light Aircraft Project "*Sabokbal*", (2002-2003).
 - Manager and Head Designer of Structural Group in "*Farnas*" Human Powered Aircraft (HPA) Project, (2001-2002).
 - Designing, Developing and Applying of Several Structural Test Procedures for Air Vehicles (2004-2010)
 - Member of Project Teams in some Composite Air vehicle Structural Analysis Projects.
 - Proficient in Air vehicle structural Design, Loading and Test.
 - Expert in Nonlinear Oscillation, Vibration and modal Test, Aeroelasticity and Isolators.
 - Skilled in Design of Composite Material Structures.
 - Adept in Analysing and Preparing the Contracts of Air vehicle Design.
 - Adept in Mechanical Aspects of Research and Development Team Management.
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Research Experience

- Nonlinear Aeroelasticity
 - Aerodynamics of Unsteady Flows
 - Structural Design and Manufacturing for Composite Aerial Vehicles
 - Experimental Test (Static Loading Tests, Vibration and Modal Tests, Impact Tests).
 - Nonlinear Dynamics and Chaos
 - Analysis of Composite Materials
 - Advanced Analysis of Structures
 - Structural Stability
 - Finite Elements Methods
 - Advanced Numerical Analysis
 - Wind Turbine Energy
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Computer Experience

- Considerable expertise in MS OFFICE (Word, Excel, PowerPoint, Access), MAPLE, ANSYS, NISA-II, MATLAB, TECPLOT, AUTO CAD, SIMULINK, ALGOR, NAVIS Works
 - Considerable expertise in the computer programming languages: FORTRAN 90, VISUAL FORTRAN, PASCAL
 - Preliminary expertise in FLUENT, GAMBIT, NASTRAN
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Awards & Memberships

2006	Top Engineer of "Rajaei" National Festival
2002	1 st Rank in the PhD Entrance Exam, Amirkabir University of Technology, Tehran, Iran
1999	2 nd Rank of in the Nationwide MSc Entrance Exam, Iran
1999-2001	AIAA Membership

Extra Activities

- Participated in an NGO to Help BAM People After the Disastrous Earthquake
 - Reading in Sociology, Novels, Poetry and Psychology
 - Swimming, Mountain Climbing, Chess
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Publications

Published Journal Papers

- 1- **Sh. Shams**, M.H. Sadr Lahidjani, H. Haddadpour, "Nonlinear aeroelastic response of slender wings based on Wagner function, " **Thin-Walled Structures Journal**, Vol.46, No.11, pp1192-1203 , Nov 2008, DOI: 10.1016 /j.tws. 2008.03.001
- 2- **Sh. Shams**, M.H. Sadr, H. Haddadpour, "An Efficient Method for Nonlinear Aeroelasticity of Slender Wings" **Nonlinear Dynamics Journal**, Vol.67, Issue1, pp659-681, Mar 2012, DOI: 10.1007/s11071-011-0018-2, 01
- 3- D. Badiei, M.H. Sadr, **Sh. Shams**, "Nonlinear Aeroelastic Behavior of Slender Wings Considering a Static Stall Model Based on Wagner Function," **Applied Mechanics and Materials Journal**, Vol.325-326, Issue186, pp172-179, Jun 2013, DOI: 10.4028/www.scientific.net/AMM.325-326.172
- 4- S.A.A. Hosseini, M. Zamanian, **Sh. Shams**, A. Shooshtari "Vibration analysis of geometrically nonlinear spinning beams," **Mechanism And Machine Theory Journal**, Vol.78, pp15-35, Feb 2014, DOI: 10.1016/j.mechmachtheory.2014.02.015
- 5- D. Badiei, M.H. Sadr, **Sh. Shams**, "Static Stall Model in Aeroelastic Analysis of a Flexible Wing with Geometrical Nonlinearity, " **Journal of Aerospace Engineering**, Vol.27, Issue 2 , pp378-389, Mar 2014, DOI: 10.1061/(ASCE)AS.1943-5525.0000263

Conference Presentations

- 1- M.H. Sadr Lahidjani, H.R. Oveisi, **Sh. Shams**, "Aeroelastic and Flutter Analysis of a Flexible Wing," **44th AIAA/ASME/ASCE/AHS Structures**, AIAA 2003-1492 , 7-10 April 2003, Norfolk, Virginia. (Oral Presented)
- 2- M.H. Sadr Lahidjani, H. Haddadpour, **Sh. Shams**, "Nonlinear Behavior of a High Flexibility Wing With Long Span Considering Large Deflection," **45th AIAA/ASME/ASCE/AHS/ASC Structures**, AIAA 2004-1943, 19 - 22 April 2004, Palm Springs, California.
- 3- H. Haddadpour, **Sh. Shams**, M. Kheiri, "Sharp Edge Gust Effects on Aero elastic Behavior of a Flexible Wing With High Aspect Ratio Using Quasi-Steady Aerodynamics," **43rd AIAA Aerospace Sciences Meeting and Exhibit**, AIAA 2005-838, 10 - 13 January 2005, Reno, Nevada
- 4- **Sh. Shams**, H. Haddadpour, M.H. Sadr Lahidjani, M. Kheiri, "A Direct Method in Computational Aeroelasticity Based on Wagner Function," **25th International Congress of the Aeronautical Sciences** – 542, 10 - 13 January 2006, Hamburg
- 5- **Sh. Shams**, M. H. Sadr Lahidjani, H. Haddadpour and M. Malekian, "Investigating of the Nonlinear Aeroelasticity Behavior of an Airfoil Using a Direct Approach", **The 7th Conference of Iranian Aerospace Society**, Sharif University of Technology, Tehran, Iran, IAS-2008-ST1335, February 19-21, 2008
- 6- **Sh. Shams**, M. H. Sadr, H. Haddadpour and M. Moshfeghi, "Effects of Considering In-Plane Bending Terms, on the Nonlinear Aeroelastic Behavior of the High Aspect Ratio Wings", **The 8th Conference of Iranian Aerospace Society**, Malek-e-Ashtar University of Technology, ShahinShahr, Iran, IAS-2009-ST987, February 17-19, 2009

- 7- **Sh. Shams**, H. Haddadpour, H. Tuzandehjani, S. Zahab, "Impact Crash Behavior of a Foam-Filled Paraboloid Shell in Drop Test", **The 9th Conference of Iranian Aerospace Society**, Feb. 8-10/2010, Islamic Azad University, Science and Research Branch, Iran, AERO2010-4461, February 8-10, 2010
 - 8- D. Badiei, M.H. Sadr, **Sh. Shams**, H. Haddadpour, "Nonlinear Aeroelastic Behavior of Slender Wings Considering a Static Stall Model Based on Wagner Function," **11th International Conference on Mechanical Engineering, Robotics and Aerospace (ICMERA 2010)**, ID:S5-1, 02-04 December 2010, Bucharest, IBIS Parliament Palace Hotel, Romania, (Oral Presented)
 - 9- M. Fotouhi, H. Heidary, M. Ahmadi, **Sh. Shams**, "Wavelet-based Acoustic Emission monitoring of composite materials damage under quasi-static 3-point bending test," **The 2nd International Conference on Composites: Characterization, Fabrication and Application (CCFA-2)**, Dec. 27-30, 2010, Kish Island, Iran
 - 10- **Sh. Shams**, H. Haddadpour, M.H. Sadr, D. Badiei, "Nonlinear Aeroelastic of High Aspect Ratio Laminated Composite Wing-spar," **49th AIAA/ASME/ASCE/AHS Structures, AIAA 2011**, 04-07 January 2011, Orlando, Florida.
 - 11- Davood Badiei, Mohammad Reza Amoozgar, **Shahrokh Shams**, Behrouz Alem , "Vibration and Critical Speed of Rotating Functionally Graded Cylindrical Shell", **The 11th Conference of Iranian Aerospace Society**, Feb. 20-22/2012, Department of Aerospace Engineering, Shahid Sattari, Aeronautical University of Science and Technology, Iran, AERO2012, February 20-22, 2012,(Poster Presented)
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