

## CV Hinko Wolf



### 1 PERSONALIA

<b>Name and surname</b>	Hinko Wolf
<b>Academic title</b>	PhD
<b>Year and institution of PhD obtained</b>	1997, University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Croatia
<b>Address</b>	Jurjevska 27B, 10000 Zagreb
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<b>Citizenship</b>	Croatian
<b>Date and place of birth</b>	17.10.1962. Zagreb, Croatia

### 2 EDUCATION

<b>Date</b>	16.12.1997.
<b>Place</b>	Zagreb, Croatia
<b>Institution</b>	University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture
<b>Title of qualification awarded</b>	PhD
<b>Date</b>	20.1.1994.
<b>Place</b>	Zagreb, Croatia
<b>Institution</b>	University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture
<b>Title of qualification awarded</b>	MSc
<b>Date</b>	18.12.1987.
<b>Place</b>	Zagreb, Croatia
<b>Institution</b>	University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture
<b>Title of qualification awarded</b>	dipl. ing. in Mechanical Engineering

### 3 AREAS OF EXPERTISE AND RESEARCH INTERESTS

Structural dynamics, Vibrations of mechanical structures, Vibration isolation, Vibration absorbers and neutralisers, Modal analysis, Non-linear vibrations, Aeolian vibrations, Modelling non-linear mechanical systems using state space representation.

### 4 WORK EXPERIENCE

<b>Date</b>	<b>01 June 1988 – now</b>
<b>Institution</b>	University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Croatia
<b>Position</b>	Full Professor
<b>Work field</b>	Structural dynamics, Vibrations of mechanical structures, Vibration isolation, Vibration absorbers and neutralisers, Modal analysis, Non-linear vibrations, Aeolian vibrations.
<b>Date</b>	<b>01 October 1987 – 01 June 1988</b>
<b>Institution</b>	Končar Institute for Electrical Engineering, Zagreb, Croatia
<b>Position</b>	Research associate
<b>Work field</b>	Vibrations of mechanical structures, Vibration isolation.

### 5 LANGUAGES

MOTHER TONGUE	<b>Croatian</b>
Language	<b>English</b>
Speaking	Independent user
Writing	Independent user
Reading	Independent user

### 6 TEACHING

- University of Zagreb, postgraduate studies: “Dynamics of machines”, lectures.
- University of Zagreb, postgraduate studies: “Nonlinear dynamics”, lectures.
- University of Zagreb, graduate studies: “Dynamics of mechanical systems”, lectures.
- University of Zagreb, undergraduate studies: “Dynamics”, lectures.
- University of Zagreb, undergraduate studies: “Mechanical vibrations”, lectures.

### 7 MENTORSHIP OF DOCTORAL AND MASTER DISSERTATIONS

- 2017. University of Zagreb, supervision of **BSc Thesis**: “Dynamic model of a wind turbine tower”, defended by Mr. Stjepan Orešković in 2017.
- 2016. University of Zagreb, supervision of **BSc Thesis**: “Determining of Spacer-Damper Rubber Elastic Material Parameters”, defended by Mr. Matija Vedriš in 2016.
- 2015. University of Zagreb, supervision of **BSc Thesis**: “Speargun trigger mechanism synthesis”, defended by Mr. Toni Barić in 2015.
- 2015. University of Zagreb, supervision of **MSc Thesis**: “The vibratory conveyor for bulk material transport”, defended by Mr. Tomislav Batković in 2015.
- 2015. University of Zagreb, supervision of **MSc Thesis**: “Numerical Analysis of the Spacer-Damper Rubber Joint Stiffness”, defended by Mr. Damjan Čakmak in 2015.
- 2014. University of Zagreb, supervision of **BSc Thesis**: “Dynamical Analysis of Diamond Spacer-Damper”, defended by Mr. Matija Horvat in 2014.
- 2014. University of Zagreb, supervision of **BSc Thesis**: “Numerical Determination of Diamond Spacer-Damper Mechanical Mobility”, defended by Mr. David Kišić in 2014.
- 2014. University of Zagreb, supervision of **BSc Thesis**: “Numerical Determination of Quad Spacer-Damper Mechanical Impedance”, defended by Mr. Šimun Lončarević in 2014.
- 2014. University of Zagreb, supervision of **BSc Thesis**: “Wind Induced Vibrations of the Wind Turbine

- Tower'', defended by Mr. Domagoj Topličanec in 2014.
- 2014. University of Zagreb, supervision of **BSc Thesis**: ''Dynamic Analysis of Quad Spacer-Damper'', defended by Mr. Matija Vedriš in 2014.
  - 2014. University of Zagreb, supervision of **BSc Thesis**: ''Dynamic Analysis of Triple Spacer-Damper'', defended by Mr. Vjekoslav Vrbljanin in 2014.
  - 2013. University of Zagreb, supervision of **BSc Thesis**: ''Dynamic Analysis of Device for Determining Mechanical Impedance of Spacer-Damper'', defended by Mr. Damjan Čakmak in 2013.
  - 2013. University of Zagreb, supervision of **BSc Thesis**: ''Numerical Determination of Spacer-Damper Mechanical Impedance'', defended by Mr. Josip Klapač in 2013.
  - 2013. University of Zagreb, supervision of **BSc Thesis**: ''Vibrations of the Wind Turbine Tower'', defended by Mr. Marko Tokić in 2013.
  - 2012. University of Zagreb, supervision of **BSc Thesis**: ''Determination of Spacer-Damper Mechanical Impedance'', defended by Mr. Saša Korošić in 2012.
  - 2011. University of Zagreb, supervision of **BSc Thesis**: ''Dynamic analysis of spacer-damper'', defended by Mr. Ivan Pavlović in 2011.
  - 2011. University of Zagreb, supervision of **BSc Thesis**: ''Analysis of Stresses and Displacements in the Horizontal Hydrogenerator Stator'', defended by Mrs. Maja Pustaić in 2011.
  - 2010. University of Zagreb, supervision of **BSc Thesis**: ''Determining of Mechanical Impedance of Stockbridge Vibration Dampers'', defended by Mr. Ivan Zenzerović in 2010.
  - 2006. University of Zagreb, co-supervision with Professor Velimir Salamon of **PhD Thesis** : ''Investigation of Maintenance Condition in Print Rotations'', defended by Mr. Dubravko Banić in 2006.

## 8 ORGANISATIONAL SKILLS AND COMPETENCES

- IWCMM29, 29th International Workshop on Computational Mechanics of Materials, Dubrovnik, Croatia, September 15-18, 2019, Member of Organizing Committee
- ICSID 2019, 3rd International Conference on Structural Integrity and Durability, Dubrovnik, Croatia, June 4 – 7, 2019, Member of Organizing Committee
- ICSID 2018, 2nd International Conference on Structural Integrity and Durability, Dubrovnik, Croatia, October 2 – 5, 2018, Member of Organizing Committee
- ICSID 2017, International Conference on Structural Integrity and Durability 2017, Dubrovnik, Croatia, August 14 - 18, 2017, Member of Organizing Committee
- NT2F16, 16th International Conference on New Trends in Fatigue and Fracture, Dubrovnik, Croatia, May 24 - 27, 2016, Member of Organizing Committee

## 9 MEMBERSHIPS IN INTERNATIONAL SCIENTIFIC COMMITTEES AND SOCIETIES

- Member of the International Scientific Committee of the International Workshop on Coupled Methods in Numerical Dynamics, Dubrovnik 2007, Croatia.
- Member of the International Scientific Committee of the International Symposium on Coupled Methods in Numerical Dynamics, Split 2009, Croatia
- CSM, Croatian Society of Mechanics

## 10 SUCESSFUL PROJECT PROPOSALS

- ''Numerical and experimental investigations of non-linear mechanical systems'', scientific research project", 120-0362321-2198, Ministry of Science and Technology of Republic of Croatia, 2007-2014.

## 11 LIST OF PUBLICATIONS

### *INTERNATIONAL PEER REVIEWED JOURNAL ARTICLES*

1. D. Čakmak, Z. Tomičević, H. Wolf, Ž. Božić, D. Semenski, I. Trapić, Vibration fatigue study of the helical spring in the base-excited inerter-based isolation system, **Engineering failure analysis**, **103** (2019), 44-56.
2. D. Čakmak, H. Wolf, Ž. Božić, M. Jokić, Optimization of an inerter-based vibration isolation system and helical spring fatigue life assessment, **Archive of applied mechanics**, **89** (2019), 1-14.
3. N. Alujević, D. Čakmak, H. Wolf, M. Jokić, Passive and active vibration isolation systems using inerter, **Journal of sound and vibration**, **418** (2018), 163-183.
4. Ž. Božić, S. Schmauder, H. Wolf, The effect of residual stresses on fatigue crack propagation in welded stiffened panels, **Engineering Failure Analysis**, **84** (2018), 346-357.
5. D. Čakmak, Z. Tomičević, H. Wolf, Ž. Božić, H2 optimization and numerical study of inerter-based vibration isolation system helical spring fatigue life, **Archive of applied mechanics**, (2018), 1-22.
6. H. Wolf, S. Singer, D. Pustaić, N. Alujević, Numerical aspects of determination of natural frequencies of a power transmission line cable equipped with in-line fittings, **Engineering structures**, **160** (2018), 510-518.
7. N. Alujević, H. Wolf, Z. Domazet, B. Pluymers, P. Sas, and W. Desmet, Auto-adaptive velocity feedback for active isolation of random vibrations in subcritical two degree of freedom systems, **Acta Acoustica united with Acoustica**, volume **101**, Issue **5**, 15 September 2015, pp. 950-963.
8. I. Bumči, T. Vlahović, F. Jurić, M. Žganjer, G. Miličić, H. Wolf, A. Antabak, Evaluation of stability of osteosynthesis with K-wires on an artificial model of tibial malleolus fracture, **Injury** **46S** (2015) S5-S13.
9. N. Alujević, H. Wolf, P. Gardonio, I. Tomac, Stability and performance limits for active vibration isolation using blended velocity feedback, **Journal of sound and vibration** **330** (2011), 4981-4997.
10. Ž. Božić, H. Wolf, D. Semenski, Growth of Multiple Fatigue Cracks in Plates Under Cyclic Tension, **Transactions of FAMENA** **34** (2010), 1-12.
11. Z. Terze, M. Vrdoljak, H. Wolf, Numerical Simulation of Landing Aircraft Dynamics, **Strojarstvo** **51** (2009), 657-665.
12. H. Wolf, B. Adum, D. Semenski, D. Pustaić, Using the Energy Balance Method in the Estimation of Overhead Transmission Line Aeolian Vibrations, **Strojarstvo** **50** (2008), 269-276.
13. H. Wolf, D. Banić, A. Sušić, Influence of small harmonic terms on eigenvalues of monodromy matrix of piecewise-linear oscillators, **Meccanica** **43** (2008), 485-494.
14. H. Wolf, Z. Terze, A. Sušić, Dynamical stability of the response of oscillators with discontinuous or steep first derivative of restoring characteristic, **European Journal of Mechanics A/Solids** **23** (2004), 1041-1050. H. Wolf, J. Kodvanj, S. Bjelovučić-Kopilović, Effects of smoothing piecewise-linear oscillators on their stability predictions, **Journal of Sound and Vibration** **270** (2004), 917-932.
15. H. Wolf, Stacionarne prisilne vibracije sustava sa zračnostima, **Strojarstvo** **42** (2000) 3,4, 109-118.
16. H. Wolf, M. Stegić, The Influence of Neglecting Small Harmonic Terms on Estimation of Dynamical Stability of the Response of Non-Linear Oscillators, **Computational Mechanics** **24** (1999), 230-237.
17. H. Wolf, Vibracije nelinearnih pogonskih sustava, **Strojarstvo** **38** (1996) 1, 5-12.
18. Z. Terze, H. Wolf, The Anthropodynamic Model for the Analysis of Time Changing Anthropomeasures, **Collegium Antropologicum** **18** (1994), 39-46.

### *INTERNATIONAL CONFERENCE CONTRIBUTIONS:*

1. N. Alujević, D. Čakmak, H. Wolf, M. Jokić, An inerter-based active vibration isolation system, Proceedings of the International Conference on Engineering Vibration (ICoEV 2017), Sofija, Bugarska.
2. D. Čakmak, Ž. Božić, H. Wolf, Z. Tomičević, Vibration and Fatigue Study of an Inerter-Based Isolation System, ICSID 2018 - 2nd International Conference on Structural Integrity and Durability 2018 Conference Proceedings.
3. D. Čakmak, Ž. Božić, H. Wolf, N. Alujević, Simultaneous Vibration and Fatigue Optimization of an Inerter-based Vibration Isolation System, ICSID 2017 - International Conference on Structural Integrity and Durability 2017 Conference Proceedings.
4. D. Semenski, H. Wolf, Ž. Božić, Advanced Methods of Structural Damage Analysis, Proceedings of Deformation and Fracture of Composites (DFC-12) & Structural Integrity and Multi-scale Modelling (SI-

- 6), Cambridge, 2013.
5. J. Barle, H. Wolf, P. Đukić, Experimental Verification of the Dynamic Model for a Wind Turbine Tower, Proceedings of 30th Danubia-Adria Symposium on Advances in Experimental Mechanics, Primošten, 2013, 219-220.
6. Ž. Božić, S. Schmauder, H. Wolf, The Influence of Residual Stresses on Fatigue Crack Growth Rate in Stiffened Panels, Proceedings of 2nd Mediterranean Conference & New Challenges on Heat Treatment and Surface Engineering, Dubrovnik, 2013, 435-444.
7. Ž. Božić, D. Semenski, H. Wolf, Fracture Analysis of Plates Under Lateral Load Pressure, Proceedings of 30th Danubia-Adria Symposium on Advances in Experimental Mechanics, Primošten, 2013, 270-271.
8. H. Wolf, D. Semenski, S. Korošić, Estimation of Overhead Transmission Line Aeolian Vibrations, Proceedings of 30th Danubia-Adria Symposium on Advances in Experimental Mechanics, Primošten, 2013, 252-253.
9. N. Alujevic, H. Wolf, Ž. Domazet, Auto-adaptive velocity feedback for active isolation of random vibrations in subcritical 2 dof systems, Proceedings of International Conference on Noise and Vibration Engineering (ISMA2012), Leuven, 2012, 435-435.
10. H. Wolf, B. Adum, D. Pustaić, I. Zenzerović, Energy Balance Method with Using Eigenfunctions in the Estimation of Overhead Transmission Line Aeolian Vibrations, Book of abstracts of 7th International Confress of Croatian Society of Mechanics, Zadar, 2012, 81-82.
11. N. Alujević, H. Wolf, P. Gardonio, Stability and performance limits for the active vibration isolation on a 2 DOF system using a reactive force actuator and velocity feedback, Proceedings of International Conference on Noise and Vibration Engineering (ISMA2010), Leuven, 2010.
12. D. Pustaić, M. Lovrenić-Jugović, H. Wolf, Investigation of Crack Opening in Isotropic Strain Hardening Material, Fracture of Materials and Structures from Micro to Macro Scale, Dresden, Germany, 2010.
13. D. Semenski, H. Wolf, Ž. Božić, Analysis of Damiging Process and Crack Propagation, The European Physical Journal Web of Conference vol 6/ Bremand Fabrice (ur.). Poitiers: EDP Sciences, Springer, Societa Italiana di Fisica, 2010,42021-p.1-42021-p2.
14. Ž. Božić, H. Wolf, D. Semenski, V. Bitunjac, Fatigue of Stiffened Panels with Multiple Interacting Cracks-an Experiment and Numerical Simulation Analysis, Book of Abstracts of 12<sup>th</sup> International Conference on Fracture, Ottawa, 2009, 170.
15. D. Semenski, I. Sitar, G. Pucci, M. Ilijašević, S. Baršun, H. Wolf, Shock and Vibration of Transformer for EMU Trains, Proceedings of 26<sup>th</sup> Danubia-Adria Symposium on Experimental Methods in Sold Mechanics, Leoben, 2009, pp. 209-210.
16. Ž. Božić, D. Semenski, H. Wolf, Numerical Simulation of Fatigue Crack Propagation in Stiffened Panels, 6th International Congress of the Croatian Society of Mechanics, Dubrovnik, Zagreb, 2009, 57.
17. Ž. Božić, D. Semenski, H. Wolf, Fatigue Life Prediction for Tension Panels with Multiple Propagating Cracks, Abstract Book of International Conference on Fatigue Damage of Structural Materials VII, Hyannis, MA, USA, Elsevier, 2008, P3.7-P3.8.
18. H. Wolf, D. Banić, Ž. Božić, Response and Dynamical Stability of Oscillators with Discontinuous or Steep First Derivative of Restoring Characteristic, 10th International Conference Describing Complex Systems, Zadar, 2008, Interdisciplinary description of complex systems 6 (2008), 117-131.
19. H. Wolf, B. Adum, D. Semenski, Measuring and Modelling Overhead Transmission Line Conductor Vibrations, Proceedings of 23rd Danubia-Adria Symposium on Experimental Methods in Sold Mechanics, Podbanske-Žilina, Slovak Republic, 2006, pp. 11-12.
20. Z. Terze, H. Wolf, D. Matijašević, Dynamic Simiulation Modeling of Landing Aircraft, International Middle Eastern Simulation Multiconference on Simulation and Modelling, MESM'2006, Alexandria, Egypt, August 28-30, 2006, pp. 22-26, EUROSIS, Ghent, 2006.
21. D. Semenski, Ž. Božić, H. Wolf, A Crack Growth Analysis in Critical Structural Components, Proceedings of 6th International Conference New Trends in Fatigue and Fracture - NT2F6, Brdo kod Kranja, Institute of Metals and Technology, Ljubljana, 2006.
22. H. Wolf, D. Semenski, A. Sušić, Convergence of Eigenvalues of Monodromy Matrix of Piecewise Linear Oscillators, Proceedings of 5th International Congress of the Croatian Society of Mechanics, Seget-Trogir, Zagreb, 2006, pp. 115-116.
23. D. Semenski, H. Wolf, Risk Assessment Of Structural Elements Of The Offshore Gas And Oil Platforms, Proceedings of 22nd Danubia-Adria Symposium on Experimental Methods in Sold Mechanics, Parma, Italija, 2005, pp. 238-239.

24. Z. Terze, H. Wolf, Dynamic Simulation of Transport Aircraft 3D Landing - Elastic Leg Shock Absorber Loads, Proceedings of European Congress on Computational Methods in Applied Sciences and Engineering, ECCOMAS 2004: Mini-symposium on Multibody Dynamics, Symposium Organizer: C. Bottasso, Jyvaskyla, Finland, 2004.
25. H. Wolf, A. E. Hudić, K. Rosean, B. Adum, Measuring of Collecting Pipe Aeolian Vibrations by Using Vibrec 400, Proceedings of 21st Danubia-Adria symposium on Experimental Methods in Solid Mechanics, Brijuni, Pula, Croatia, 2004, pp. 126-127.
26. Z. Terze, H. Wolf, S. Janković, Dynamic Simulation of Landing Aircraft, Proceedings of ECCOMAS Thematic Conference on Advances in Computational Multibody Dynamics, Editor: Jorge A. C. Ambrosio, Lisboa, Portugal, 2003. Paper No. MB2003-008.
27. Z. Terze, H. Wolf, S. Janković, Dynamic Simulation of Transport Aircraft Landing Impact, Proceedings of 4th International Congress of the Croatian Society of Mechanics, Bizovac, Croatia, 2003, pp. 631-638.
28. H. Wolf, O. Muftić, Z. Terze, Advantages of HBM Over IHBM for Single-Harmonic Analysis of Forced Vibrations of an Impact-Pair, Proceedings of the 5th International Design Conference, Dubrovnik, Croatia, 1998, pp. 701-706.
29. Z. Terze, O. Muftić, H. Wolf, Dynamic Simulation of Human Body Movement, Proceedings of the 5th International Design Conference, Dubrovnik, Croatia, 1998, pp. 603-608.
30. H. Wolf, Vibrations of a Mechanical System With Clearance Subjected to a Multy-Harmonic Periodic Excitation, Proceedings of the 2nd Congress of Croatian Society of Mechanics, Supetar, Croatia, 1997, pp. 439-446.
31. H. Wolf, The Reliability of Analysis of Forced Vibrations of a Mechanical System With Clearances by Using the Method of Harmonic Balance, Proceedings of the 1st Congress of Croatian Society of Mechanics, Pula, Croatia, 1994, pp. 358-364.
32. Z. Terze, H. Wolf, The Anthropodynamic Model for the Analysis of Time Changing Anthropomeasures, Proceedings of the 11th International Anthropological Conference, Zagreb, Croatia, 1992, 135-143.

#### ***DISSERTATIONS AND GRADUATION THESES***

1. H. Wolf, Prilog numeričkom istraživanju stacionarnih prisilnih vibracija sustava sa zračnostima, doctoral dissertation, (Numerical investigation of stationary forced vibrations of mechanical systems with clearances), University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Zagreb, 1997.
2. H. Wolf, Vibracije nelinearnih vibracijskih sistema, ("Vibration of non-linear mechanical systems"), MPhil thesis, University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Zagreb, 1994.
3. H. Wolf, Numerička analiza naprezanja pumpe, (Numerical analysis of stresses in a pump), Diploma thesis (dipl. ing.) diplomski rad, University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Zagreb, 1987.