CV Neven Alujević



1	PERSONALIA		
	Name and surname	Neven Alujević	
	Academic title	PhD	
	Year and institution of PhD obtained	2008, University of Southampton, Faculty of Engineering Science and Mathematics, Institute of Sound and Vibration Research, UK	
	Address	Groot Begijnhof 74, bus 02.01. 3000 Leuven	
	Phone	+32 (0) 474 044 676	
	Fax	x +32 (0) 16 3 22480	
	E-mail	neven.alujevic@mech.kuleuven.be	
	Personal web page	http://www.kuleuven.be/wieiswie/en/person/00085661	
	Citizenship	Croatian	
	Date and place of birth	18.04.1976. Split, Yugoslavia	
2	EDUCATION		
	Date	27.10.2008.	
	Place	Southampton, UK	
	Institution	University of Southampton, Faculty of Engineering Science and	
	Title of qualification	PhD	
	awarded		
	Date	26.03.2004.	
Place Zagreb, Croatia		Zagreb, Croatia	
	Institution	Faculty of Mechanical Engineering, and Naval Architecture (FSB) of University of Zagreb	

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Title of qualification	dipl. ing.	in Aerospace	Engineering

awarded

3 AREAS OF EXPERTISE AND RESEARCH INTERESTS

Structural dynamics, Vibrations of mechanical structures, Vibration isolation, Vibration absorbers and neutralisers, Active control of sound and vibration, Sound transmission control, Structural control, "Smart" mechatronic structures, Sensors and actuators for vibration control, Mechatronic systems, Feedback control of structural vibration, Modal analysis, Vibration measurements, Laser vibrometry, Acoustic measurements, Sound power measurements.

4 WORK EXPERIENCE

Date	01 May 2016 – now		
Institution	University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Croatia		
Position	Assistant professor		
Work field	Research on dynamic behaviour of ships rolling in rough seas. Active control of ship roll using active anti-roll tanks. Energy harvesting of ship roll motion using passive anti roll tanks. Investigation of safety of ships rolling in rough seas.		
Date	ate 10 September 2012 – now		
Institution	KU Leuven, PMA, Belgium		
Position	Postdoctoral fellow		
Work field	Research on how to obtain more accurate structural tire models through a better understanding of the influence of rolling on the tire dynamic behavior. Identification of the physical phenomena that are involved in the complex dynamic behaviour of a rolling tire. Implementation of the effects of rolling in more simplified existing structural tire models in order to increase the accuracy and versatility of these models.		
Date	01 November 2010 - 4 September 2012		
Institution	University of Split, Croatia		
Position	Postdoctoral fellow		
Work field	Teaching at undergraduate and graduate students of electrical and mechanical engineering. Development of course materials. Research on reduction of interior noise in high speed vehicles through active control of noise transmission.		
Date	e 15 November 2008 - 14 November 2010		
Institution	a TU Darmstadt/LBF Fraunhofer-Competence centre for mechatronics and		
	adaptronics, Germany		
Position	Postdoctoral fellow		
Work field	Research concerned with the application of hybrid active/passive vibration control for attenuation of vibrations transmitted from rotating machinery to a supporting structure.		
Date	01 October 2005 - 30 September 2008		
Institution	University of Southampton, Institute of Sound and Vibration Research, UK		
Position	Doctoral researcher		
Work field	PhD dissertation on smart structures for the active control of noise transmission into aircraft interior.		
Date	01 November 2004 - 30 September 2005		
Institution	University of Split, Croatia		
Position	Research/Teaching assistant		
Work field	Teaching at undergraduate and graduate students of electrical and mechanical engineering. Research on effects of fatigue on durability and integrity of mechanical structures.		

5 LANGUAGES

MOTHER TONGUE	Croatian
Language	English
Speaking	Proficient user
Writing	Proficient user
Reading	Proficient user
Language	German
Speaking	Basic user
Writing	Basic user
Reading	Independent user
Language	Dutch
Speaking	Basic user
Writing	Basic user
Reading	Independent user

6 TEACHING

- 2011.-2012. University of Split, graduate studies: "Mechatronics", lectures and problem examples.
- 2011.-2012. University of Split, undergraduate studies: "Fundamentals of Engineering Design", problem examples.
- 2010.-2011. University of Split, undergraduate studies: "Fundamentals of Engineering Design", problem examples.
- 2004.-2005. University of Split, undergraduate studies: "Fundamentals of Engineering Structures", problem examples.
- 7 MENTORSHIP OF DOCTORAL AND MASTER DISSERTATIONS AND TRAINING OF YOUNG RESEARCHERS AND SCIENTISTS
- 2016. KU Leuven, supervision of **MSc Thesis**: "Experimental characterisation of commercial vibration absorbers for handheld power tools", in progress, Mr Hannes Dewolf.
- 2015. KU Leuven, supervision of **MSc Thesis:** "Microphone array based technique for aeroacoustic source identification in a reverberant environment", defended on 26.06.2015. by Mr. Niels Divens.
- 2014. KU Leuven, supervision of **MSc Thesis**: "Active control of sound transmission through a double-wall structure", defended by Mr Steven Claes.
- 2014. KU Leuven, supervision of **MSc Thesis**: "Actieve trillingsonderdrukking in de aandrijflijn door middel van piezo-elektrische actuatoren (in cooperation with FMTC, Flanders Mechatronics Technology Centre) defended by Mr. Glenn Gysels.
- 2013. KU Leuven, supervision of the work of a visiting **postdoctoral researcher** "Simplified models of rotating tires", Dr. Nuria Campillo-Davo, in the framework of a Short Term Scientific Mission in COST Action TU1105.
- 2012. KU Leuven, supervision of the work of a visiting **MSc student** "Energy harvesting from ambient vibrations" Mr. Felipe Carmo-Carvalho.
- 2012-2014. KU Leuven, co-supervision with Professor Paul Sas of doctoral thesis on piezoelectric actuators for reducing vibrations of rotating machinery, PhD researcher Mr. Guoying Zhao. (defended 19.02.2015.)
- 2012. University of Split, supervision of **BSc Thesis**: "Dynamic analysis of vibration neutralizer and a vibration absorber", defended by Mr. Tomislav Zuljic in September 2012.
- 2008. University of Southampton, Institute of Sound and Vibration Research, supervision of **MSc Thesis**: "Active control of sound transmission through a double panel", defended by Mr. Paul Melvin in 2008.

8 ORGANIZATIONAL SKILLS AND COMPETENCES

• September 2015. - 12.01.2016. Management of the project proposal preparation process, consortium definition, partner communication, preparation of the proposal text, for the European Training

Networks, Call: H2020-MSCA-ITN-2016, Multi-ITN, under evaluation SMS, Smart Marine Structures.

- 10.09.2012. 22.11.2012. Management of the project proposal preparation process, consortium definition, partner communication, preparation of the proposal text, for the Initial Training Networks, call FP7-PEOPLE-2013-ITN, Multi-ITN ANTARES, Grant agreement no.: 606817, Advanced Training and Research in Energy Efficient Smart Structures, Date of approval of Annex I by REA: 06/02/2014, Project start date: 01/10/2014
- 26.05.2011. Organisation of the thematic Info-Day "FP7 People programme" University of Split, Croatia.
- 9 MEMBERSHIPS IN INTERNATIONAL SCIENTIFIC COMMITTEES AND SOCIETIES
- <u>Member of the International Scientific Committee of the 6th European Conference on Structural Control</u> <u>Sheffield 2016 July 11th to 13th, 2016.</u>
- CSM, Croatian Society of Mechanics

10 SUCESSFUL PROJECT PROPOSALS

- H2020 Individual Fellowships, call H2020-MSCA-IF-2014, STARMAS, "Structured Training and Advanced Research in Marine Active Structures", Grant agreement no.: 657539, 180k€, University of Zagreb, 01.May 2016-30. April 2018. perfect evaluation score 100%.
- Initial Training Networks, call FP7-PEOPLE-2013-ITN, Multi-ITN ANTARES, Grant agreement no.: 606817, <u>Advanced Training and Research in Energy Efficient Smart Structures</u>, Date of approval of Annex I by REA: 06/02/2014, Project start date: 01/10/2014 30.09.2018. 3.6M€, KU Leuven
- EU FP7 Marie Curie reintegration grant, University of Split SPRiNT "Smart Panels for the Reduction of Noise Transmission", Croatia 2010.-2012. 45k€

11 LIST OF PUBLICATIONS

INTERNATIONAL PEER REVIEWED JOURNAL ARTICLES

- 1. <u>N. Alujevic</u>, N. Campillo-Davo, P. Kindt, W. Desmet, B. Pluymers, S. Vercammen, Analysis of free vibrations of rotating cylindrical shells having both ends free, submitted to **Engineering Structures** (2016), manuscript number ENGSTRUCT-D-15-00213.
- 2. <u>N. Alujević</u>, 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.
- 3. G. Zhao, <u>N. Alujevic</u>, B. Depraetere, G. Pinte, J. Swevers, P. Sas, Experimental study on active structural acoustic control of rotating machinery using rotating piezo-based inertial actuators, **Journal of Sound and Vibration**, **Volume 348**, **21 July 2015**, **Pages 15-30**.
- 4. G. Zhao, G. Pinte, N. Alujevic, B. Depraetere, P. Sas, Adaptive-passive control of structure-borne noise of rotating machinery using a pair of shunted inertial actuators, **Journal of Intelligent Material Systems and Structures, doi: 10.1177/1045389X15600080** (2015).
- <u>N. Alujević</u>, G. Zhao, B. Depraetere, B. Pluymers, P. Sas, W. Desmet, *H*₂ optimal vibration control using inertial actuators and a comparison with tuned mass dampers, Journal of Sound and Vibration, Volume 333, Issue 18, pp. 4073-4083, (2014)
- Zhao, G., <u>Alujevic, N.</u>, Depraetere, B., Sas, P. (2014). Dynamic analysis and H2 optimization of a piezobased tuned vibration absorber. Journal of Intelligent Material Systems and Structures, doi:10.1177/1045389X14546652, (2014).
- 7. <u>N. Alujević</u>, I. Tomac, P. Gardonio, *Tuneable vibration absorber using acceleration and displacement feedback*, Journal of Sound and Vibration, Volume 331, Issue 12, 4 June 2012, pp. 2713-2728
- 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, Volume 330, Issue 21, 2011, pp. 4981-4997
- 9. <u>N. Alujevic</u>, P. Gardonio, K. D. Frampton, *Smart Double Panel for the Sound Radiation Control: Blended Velocity Feedback*, The American Institute of Aeronautics and Astronautics Journal, Volume 49, Issue 6, 2011, Pp. 1123-1134
- 10. P Gardonio, <u>N. Alujević</u>, *Double panel with skyhook active damping control units for control of sound radiation*, **Journal of the Acoustical Society of America**, **Volume 128**, **Issue 3**, **2010**, **Pp. 1108-1117**
- 11. <u>N. Alujevic</u>, K. D. Frampton, P. Gardonio, *Stability and performance of a smart double panel with decentralized active dampers*, **The American Institute of Aeronautics and Astronautics Journal**, **Volume 46, Issue 7, 2008, pp. 1747-1756**
- N. Alujevic, P. Gardonio, K. D. Frampton, Smart Double Panel with Decentralized Active Dampers for Sound Transmission Control, The American Institute of Aeronautics and Astronautics Journal, Volume 46, Issue 6, 2008, pp. 1463-1475.
- 13. L. Ji, M. Jokić, Z. Huang, <u>N. Alujević</u>, *A simple hybrid approach on predicting the vibration transmission of rib-stiffened plates*, **Transactions of FAMENA**, **Volume 37**, **Issue 2**, **2013**, **pp. 29-38**

CONFERENCE REPORTS (ABSTRACTS) IN PEER REVIEWED JOURNALS:

1. P. Gardonio, C. Gonzalez-Diaz, <u>N.</u> Alujevic, Y. Aoki, *Experimental tests on smart panels for the reduction of sound radiation*, **The Journal of the Acoustical Society of America**, **pp. 3870-3870, 2008**.

INTERNATIONAL CONFERENCE CONTRIBUTIONS:

- <u>N. Alujević</u>, N. Campillo-Davo, P. Kindt, W. Desmet, B. Pluymers, S. Vercammen, A simplified tire model based on a rotating shell, Proceedings of the **4th International Tyre Colloquium** / Gruber, P. ; Sharp, R. (ur.). Guildford, Surrey, GU2 7XH, United Kingdom: University of Surrey, 2015. 383-392. (peer-reviewed abstract, oral presentation)
- N. Alujevic, N. Campillo-Davo, P. Kindt, W. Desmet, B. Pluymers, S. Vercammen, A simplified model of a rotating tire using cylindrical shells with free ends supported by an elastic foundation, ISMA2014, 15-17. September 2014, Leuven, Katholieke Universiteit Leuven, 2014, (peer-reviewed abstract, oral presentation)

- N. Alujevic, P. Kindt, B. Pluymers, P. Sas, W. Desmet, N. Campillo-Davo, (2014) Simplified rotating tire models based on cylindrical shells with free boundary conditions. FISITA 2014 World Automotive Congress. Maastricht, 2 - 6 June 2014 (art.nr. F2014-NVH-084).
- 4. G. Zhao, W. Jacobs, B. Depraetere, <u>N. Alujevic</u>, G. Pinte, P. Sas, (2013). Modal analysis of a piezo based axisymmetric rotational vibration absorber. Proceedings of 5th IOMAC International operational modal analysis conference. **IOMAC 2013** (art.nr. Paper ID: No.229, pp. 120-129).
- 5. M. Jokic, L. Ji, Z. Huang, <u>N. Alujevic, *Passive vibration control in mid-frequency region*, **11th International Conference on Vibration Problems**, Lisbon, Portugal, 9–12, September 2013.</u>
- N. Alujević, G. Zhao, B. Depraetere, B. Pluymers, P. Sas, W. Desmet, *H*₂ optimal vibration control using tuned mass dampers and inertial actuators: comparison of passive and active control effects, AIA-DAGA 2013 Conference on Acoustics, 18-21 March 2013, Merano, Italy, (invited paper, oral presentation)
- N. Alujević, H. Wolf, Z. Domazet, Auto-adaptive velocity feedback for active isolation of random vibrations in subcritical 2 dof systems, Proceedings of ISMA2012, 17-19. September 2012, Leuven, Katholieke Universiteit Leuven, 2012, (peer-reviewed abstract, oral presentation)
- 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 ISMA2010, 20-22. September 2010, Leuven, Katholieke Universiteit Leuven, 2010, (peer-reviewed abstract, oral presentation)
- N. Alujević, I. Tomac, P. Gardonio, *Theoretical and Experimental Analysis of a Tuneable Vibration* Absorber using Acceleration and Displacement Feedback, Proceedings of ISMA2010, 20-22. September 2010, Sas, Paul; De Munck Maarten (editors), Leuven, Katholieke Universiteit Leuven, 2010, (peerreviewed abstract, poster presentation)
- N. Alujevic, P. Gardonio and K. D. Frampton, Active Control of Sound Transmission Through a Model Aircraft Panel, International Symposium on Coupled Methods in Numerical Dynamics, Split, Croatia, September 16–19, 2009, pp. 241-253 (peer-reviewed conference paper, oral presentation)
- N. Alujevic, P. Gardonio and K.D. Frampton Smart double panel with decentralized feedback control units for blended velocity feedback, The 2009 International Symposium on Active Control of Sound and Vibration, Ottawa, Canada, August 20–22, 2009, Proceedings of ACTIVE 2009, paper ac09_365 (conference paper, oral presentation, peer-reviewed abstract)
- N. Alujevic, N. Degiuli, Z. Domazet, and P. Gardonio, Active vibration control of a two degree of freedom system using blended velocity feedback, AfriCOMP 2009, 1st African Conference on Computational Mechanics – An International Conference, Sun City, South Africa, 7–11 January, 2009, (peer reviewed extended abstract, presentation).
- N. Alujevic, P. Gardonio and K.D. Frampton, *Experiments on a Smart Double Panel with Active Dampers for the Control of Sound Transmission*. Proceedings of ISMA2008, 15-17 September 2008, Sas, Paul; De Munck Maarten (editors), Leuven, Katholieke Universiteit Leuven, 2008, (peer-reviewed abstract, oral presentation)
- 14. <u>N. Alujevic</u>, *Smart structures for noise and vibration control*, Marie Curie Conference, 17-18 July 2008, Barcelona, Spain (abstract, poster).
- 15. <u>N. Alujevic</u>, P.Gardonio, *Performance and stability properties of a smart double panel with decentralized active dampers*. Proceedings of the Sixth International Symposium on Active Noise and Vibration Control, ACTIVE 2006, Adelaide, Australia, 18-20 September 2006. Paper N° 59. (peer-reviewed paper, oral presentation)
- <u>N. Alujevic</u>, P.Gardonio, *Decentralised feedback control systems in double panels*, Proceedings of ISMA2006, Leuven, Belgium, 18-20 September 2006, pp. 1379-1394. (peer-reviewed abstract, oral presentation)
- N. Alujevic, P.Gardonio, Smart double panel with active damping units located in the air cavity. Institute of Acoustics Spring Conference, Futures in Acoustics, Today's Research - Tomorrow's Careers, Southampton, UK, 3-4 April 2006, 28(1), 2006, pp. 126-137.
- L. Krstulovic-Opara, Z. Domazet, <u>N. Alujevic</u>, Die Anwendung von elektrischen Dehnungsmessstreifen zur Beanspruchungsanalyse an der Ölwanne eines 13530 kW-Schiffsdieselmotors. Messtechnische Briefe, 1, 2006, pp. 20-26.
- L. Krstulovic-Opara, Z. Domazet, <u>N. Alujevic</u>, A note on the comparison of measurements for the 13530 kw diesel engine obtained on the test bed and during the navigation, Proceeding of 22nd Danubia-Adria Symposium on Experimental Methods in Solid Mechanics, Parma, 2005, pp. 232-233

INVITED LECTURES

- 1. *Dynamics of an Adaptive Vibration Absorber*, Laboratoire Vibrations Acoustique INSA de Lyon, Lyon, France, 17. December 2009. (invited seminar, oral presentation, demonstration)
- 2. Dynamics of an Adaptive Vibration Absorber, Gottfried Wilhelm Leibniz Universität Hannover, Institut für Kontinuumsmechanik, Hannover, Germany, 10. December 2009. (invited seminar, oral presentation)

DISSERTATIONS, GRADUATION THESES AND TECHNICAL MEMORANDA

- 1. <u>N. Alujevic</u>, Smart double panel with decentralised active damping units for the control of sound transmission, **PhD thesis**, University of Southampton, Faculty of Engineering Science and Mathematics, **Institute of Sound and Vibration Research**, August 2008.
- 2. <u>N. Alujevic</u>, K. D. Frampton and P. Gardonio, *Smart Double Panel with Decentralised Active Dampers for Control of Sound Transmission*, **ISVR Technical Memorandum** Nº 972, February 2007.
- 3. <u>N. Alujevic</u>, Dynamic modeling of a passenger aircraft shock absorber (Dinamički model elastičnoprigusnog elementa podvozja putnickog zrakoplova), **Diploma thesis, Fakultet strojarstva i brodogradnje FSB, Zagreb**, March 2004.