



ADAM K. KISS

PHD STUDENT



Profile

I am a PhD student and a researcher in the field of dynamical systems in engineering, especially machine tool vibration and control design of connected automated vehicles.



Contact

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Skills

English – Intermediate
MATLAB – Advanced
Wolfram Mathematica – Adv.
ANSYS – Intermediate
LATEX – Intermediate
Inkscape – Intermediate
MS Office – Skilled user



Education

PhD in Mechanical Engineering Department of Applied Mechanics, Budapest University of Technology and Economics, Hungary Supervisor: Dr. Daniel BACHRATHY, assistant professor Expected date of the award:	2016 – 2020, Oct
MSc in Mechanical Engineering Modelling (in English), Budapest University of Technology	2013 – 2015
BSc in Mechanical Engineering Modelling Budapest University of Technology and Economics	2009 – 2013



Positions

Assistant Research fellow Department of Applied Mechanics, Budapest University of Technology and Economics Teaching: Statics, Strength of Material, Dynamics, Vibrations, Finite Element Analysis	2015 - 2016
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Scientific activity

Own research programmes New National Excellence Program, Investigating nonlinear and non-smooth effects of connected automated vehicles' control	2018 – 2019
New National Excellence Program, Scanning and analysing three-dimensional surfaces resulted by machining	2017 – 2018
Participation in research programmes European Research Council (ERC) Advanced Grant N°340889, Stability Islands: Performance Revolution in Machining, PI: Prof. Gabor STEPAN	2014 – 2019
Hungarian Scientific Research Found (OTKA) FK 124462, High Performance Computing of Complex Cutting Models, PI: Dr. Daniel BACHRATHY	2017 – 2021
(OTKA) PD 112983, Robust stability of dynamical systems, PI: Dr. Daniel BACHRATHY	2014 – 2017



Experience abroad

Visiting Researcher University of Michigan, Department of Mechanical Engineering, Ann Arbor, Michigan, USA (4 weeks)	2017
Nanjing University of Aeronautics and Astronautics, College of Mechanical and Electrical Engineering, Nanjing, China (10 days)	2017
Lappeenranta University of Technology, Laboratory of Machine Dynamics, Lappeenranta, Finland (1 week)	2016



Journal papers

- [2] A.K. Kiss, D. Hajdu, D. Bachrathy, G. Stepan, Operational stability prediction in milling based on impact tests, *Mechanical Systems and Signal Processing* 103:327-339, 2017
- [1] G. Stepan, A.K. Kiss, B. Ghalamchi, J. Sopanen, D. Bachrathy, Chatter avoidance in cutting highly flexible workpieces, *CIRP Annals – Manufacturing Technology* 66(1):377-380, 2017

Conference papers

- [7] A.K. Kiss, D. Bachrathy, G. Stepan, Laser scanned patterns of machined surfaces, *Proceedings of the 8th HPC 2018 – CIRP Conference on High Performance Cutting*, June 25-27, 2018, Budapest, Hungary
- [6] A.K. Kiss, D. Bachrathy, G. Stepan, Experimental Determination of Dominant Multipliers in Milling Process by means of Homogeneous Coordinate Transformation, *Proceedings of ASME 2017, 29th Conference on Mechanical Vibration and Noise*, August 6–9, 2017, Cleveland, Ohio, USA, DETC2017-67827
- [5] A.K. Kiss, D. Bachrathy, Nonlinear and non-smooth effects during machining process (in Hungarian), *Nemlineáris és nem-sima hatások forgácsolási folyamatok során*, *Proceedings of 12th Tavaszi Szél Konferencia*, March 31 - April 2, 2017, Miskolc, Hungary
- [4] A.K. Kiss, D. Bachrathy, G. Stepan, Surface Error and Stability Chart of Beam-type Workpiece in Milling Processes, *Proceedings of ASME 2016, 28th Conference on Mechanical Vibration and Noise*, August 21–24, 2016, Charlotte, North Carolina, USA, DETC2016-59940
- [3] A.K. Kiss, D. Bachrathy, G. Stepan, Cumulative Surface Location Error for milling processes based on tool-tip Frequency Response Function, *Proceedings of the 7th HPC 2016 – CIRP Conference on High Performance Cutting*, May 31-June 2, 2016, Chemnitz, Germany, *Procedia CIRP* 46:323-326
- [2] A.K. Kiss, D. Bachrathy, G. Stepan, Explicit model of cumulative surface location error for milling processes, *Proceedings of the 12th Hungarian Conference on Theoretical and Applied Mechanics (HCTAM)*, August 25-27, 2015, Miskolc, Hungary, Paper 275, 2015
- [1] A.K. Kiss, D. Bachrathy, Experimental Validation of Cumulative Surface Location Error for Turning Processes, *Proceedings of the 14th Youth Symposium on Experimental Solid Mechanics (YSESM)*, May 20-23, 2015, Traunkirchen, Austria, *Acta Polytechnica CTU Proceedings*, 3:25-29, 2016

Conference posters

- [2] A.K. Kiss, D. Bachrathy, G. Stepan, Cutting force measurement from acceleration sensor in milling operation, *35th Danubia-Adria Symposium on Advances in Experimental Mechanics*, 25-28 September 2018, Sinaia, Romania
- [1] A.K. Kiss, D. Bachrathy, Experimental Validation of Cumulative Surface Location Error for Turning Processes, *Proceedings of the 14th Youth Symposium on Experimental Solid Mechanics (YSESM)*, May 20-23, 2015, Traunkirchen, Austria,

Conference abstracts

- [5] A.K. Kiss, D. Bachrathy, G. Stepan, Cutting force measurement from acceleration sensor in milling operation, *935th Danubia-Adria Symposium on Advances in Experimental Mechanics (DAS)* September 25-28, 2018, Sinaia, Romania, (2 pages)
- [4] A.K. Kiss, D. Bachrathy, G. Stepan, Bifurcations in implicit map - application to Surface Location Error in milling processes, *9th European Nonlinear Dynamics Conference (ENOC2017)*, June 25-30, 2017, Budapest, Hungary, ID 382, ISBN 978-963-12-9168-1, (2 pages)
- [3] A.K. Kiss, D. Bachrathy, *Nemlineáris és nem-sima hatások forgácsolási folyamatok során*, *Tavaszi Szél 2017, Nemzetközi Multidiszciplináris Konferencia*, June 25-30, 2017, Miskolc, Hungary, ISBN 978-615-5586-14-9, (1 page)
- [2] A.K. Kiss, D. Bachrathy, *Halmazódó felületi eltolódási hiba vizsgálata marási folyamatok során*, *XII. Magyar Mechanikai Konferencia (MaMeK)* August 25-27, 2015, Miskolc, Hungary (1 page)
- [1] A.K. Kiss, D. Bachrathy, Experimental Validation of Cumulative Surface Location Error for Turning Processes, *14th Youth Symposium on Experimental Solid Mechanics (YSESM)*, May 20-23, 2015, Traunkirchen Monastery, Austria (2 pages)



Awards and Scholarships

- 2018 – 2019 Scholarship of the New National Excellence Program, Ministry of Human Capacities – 10 months
- 2017 – 2018 Scholarship of the New National Excellence Program, Ministry of Human Capacities – 10 months
- 2017 1st price at XX. Spring Wind Multidisciplinary Conference, Engineering section
- 2015 National Scientific Student's Conference, Special Award (Section: Applied Mechanics)
- 2013 Scientific Student's Conference, 2th place (Section: Applied Mechanics)