



Europass Curriculum Vitae



Personal information

First name / Surname **Mihăiță HORODINĂ**
Address 28 Străpungere Silvestru, C-L7, apt. 17, 700005, Iasi, Romania
Telephone +40.232.242109 (office)
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E-mail horodinca@tuiasi.ro
Nationality Romanian
Date of birth February 16, 1964
Gender Male

Desired employment / Occupational field

Occupational field Engineering, Science and Technology

Work experience

Dates October 1991 onwards
Occupation or position held Assistant (1991-1995), Lecturer (1995-2009), Associate Professor (2009-2014), Professor (since 2014), PhD supervisor (since 2016)
Main activities and responsibilities

- Member of CNATDCU industrial engineering and management committee (since 2016)
- Head of Machine-tools Department from Technical University Iasi, Romania (since 2016)
- Teaching the fundamentals of machine-tool design, mechanical systems dynamics, computer aided experimental research and data processing;
- Computer assisted experimental research on dynamics of the manufacturing systems;
- Computer assisted experimental research on active power evolution on actuated equipments;
- New strategies of active damping with piezoelectric actuated systems;
- High efficiency passive damping systems (passive dynamic absorbers);
- Mechatronics and mechanical prototyping.

Name and address of employer Gheorghe Asachi Technical University of Iasi
Faculty of Machine Manufacturing and Industrial Management
Machine-tools Department
59 A, Bd. Dimitrie Mangeron, et.1, 700050, Iasi, Romania
Type of business or sector Education and research
Dates September 1988-September 1991
Occupation or position held Engineer
Main activities and responsibilities

- Design and prototyping of special machine-tools;
- Preliminary supervising of prototypes manufacturing.

Name and address of employer	IMAMUS (AGMUS) Iasi 32, Sos. Chisinaului, 700265, Iasi, Romania
Type of business or sector	Machine-tools Manufacturing
Dates	2000-2003 (three years), 2005-2007 (34 months), August 2008 – 2017 (summer fellowships, a month or two each year)
Occupation or position held	Post doc researcher (2000-2003), Visiting researcher.
Main activities and responsibilities	<ul style="list-style-type: none"> - Head of the mechanical prototyping team; - Design, manufacturing and experimental research in: <ul style="list-style-type: none"> - Pipe inspection robotics (a new architecture of driving systems, four wireless prototypes); - Active vibration isolation (six degree of freedom vibration isolator based on Stewart-Gough platform in cubic architecture and collocated decentralized integral velocity-force feedback closed loop control, two prototypes, part of two collaborative projects funded by European Space Agency) ; - Passive and active damping of structures, high efficiency tune mass dampers based on viscoelastic materials (more than 30 dB efficiency in damping); - Synthesis of new electrodynamic and piezoelectric actuators; - Adaptive optics (segmented mirrors with controllable shapes based on piezoelectric actuation); - Haptic systems (exoskeleton with 7 degree of freedom for human arm, robotic application, funded by European space Agency); - Magnetic actuated (semi active) braking devices (two prototypes). <p>I was involved in some European projects funded by European Space Agency:</p> <ul style="list-style-type: none"> - <i>Zero gravity testing of a six-axis vibration isolator and innovative sensing for a low frequency vibrations, 48 ESA Parabolic Flight Campaign</i> (17 March 2008), PRODEX No. 90147 (Active Structure Laboratory – ASL, Université Libre de Bruxelles -ULB, Belgium); - <i>ESA/ESTEC, EXOSTATION project: Control Stations for new Space Automation and Robotics Applications</i>, Contract No. 18408/04/NL/CP-ULB. - <i>PRODEX 90147, 38th ESA Parabolic flight campaign</i>, Bordeaux, 26-28 October, 2004. - <i>ESA-PRODEX: Parabolic Flight Test (September 2002) For Six-Axis Active Vibration Isolator</i>, PRODEX No. 90049 (ASL, ULB), A part of the research programme: <i>Two Phase Loop with Condensing-Separating System for the Experiment "Evaporative Convection and Turbulence in Pure Fluids"</i>. <p>I was involved in some European projects:</p> <ul style="list-style-type: none"> - <i>SMARTOOL project</i>, Contract no. GIRD-CT-2001-00551, funded by European Commission - <i>Wheel-rail Corrugation in Urban Transport project</i>, GRD2-2001-5006 funding by European Community.

Name and address of employer	Active Structure Laboratory, Université Libre de Bruxelles, Belgium. Head of the Lab: Professor André Preumont (retired) Email: andre.preumont@ulb.ac.be ULB, Department of Mechanical Engineering and Robotics, Active Structures Laboratory, avenue F.D.Roosevelt, 50, CP 165/42, B-1050 Brussels Belgium Email: scmero@ulb.ac.be http://scmero.ulb.ac.be/team.php
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Type of business or sector	Scientific research
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Education and training

Dates	1993-1998
Title of qualification awarded	PhD
Principal subjects/occupational skills covered	Thesis title: ' <i>Contribution on Adaptive Driving and Diagnosis Systems Optimization on Toothed-wheels Milling Machines</i> ', Computer aided theoretical and experimental research on the optimisation of toothed- wheels manufacturing milling machines.
Name and type of organisation providing education and training	Gheorghe Asachi Technical University of Iasi, Romania

Level in national or international classification	ISCED 6
Dates	1983-1988
Title of qualification awarded	Bachelor of Engineering (Mechanics)
Principal subjects/occupational skills covered	- Mechanical engineering; - Machine-tools and flexible manufacturing systems design and prototyping; - Manufacturing processes.
Name and type of organisation providing education and training	'Gheorghe Asachi' Polytechnic Institute of Iasi, Romania. Faculty of Mechanics
Level in national or international classification	ISCED 5

Personal skills and competences

Mother tongue **Romanian**

Self-assessment <i>European level</i> (*)	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	B1 Independent user	B1 Independent user	B1 Independent user	B1 Independent user	B1 Independent user
French	C1 Proficient user	C1 Proficient user	C1 Proficient user	C1 Proficient user	B1 Independent user

(*) [Common European Framework of Reference for Languages](#)

Social skills and competences	Team work: I have worked in many types of teams of researchers in Romania and abroad (Belgium).
Organisational skills and competences	I am foreign partner of the Active Structure Laboratory, University Librè de Bruxelles, Belgium. I was Project Manager in the framework of PN-II-ID-PCE-2008-2 research programme (PNII – IDEI code ID 313/2008) funded by Romanian Authority for Scientific Research (CNCSIS–UEFISCSU).
Technical skills and competences	- Computer assisted experimental research in dynamics of the structure and equipments; - Computer assisted experimental research of the phenomena mirrored in the evolution of the actuation power and Instantaneous angular speed - Computer assisted data processing; - Passive and active damping; - Design and manufacturing of mechatronics experimental setup in various domains; - Design, manufacturing and experimental research on electro-dynamic and piezoelectric actuators; - Robotics; - Design and manufacturing of loading sensors with strain gages.
Computer skills and competences	Operating systems: MS Windows; Software applications: Matlab and Simulink, Autocad, MS Office, various dedicated software application for mechanical engineering.
Artistic skills and competences	Romanian orthodox liturgy music.
Hirsch index:	- 10 on Web of Science; - 10 on Scopus; - 15 on Google Scholar;

Additional information

Personal references: Professor André Preumont, Active Structure Laboratory, Université Libre de Bruxelles, Belgium.
Email: andre.preumont@ulb.ac.be

Annexes Some relevant ISI papers :

1. **Horodincă, M.**, Ciurdea, I., Chitariu, D. F., Munteanu A., Boca, M., (2020), Some approaches on instantaneous angular speed measurement using a two-phase n poles AC generator as sensor, *Measurement* 157 pp.1-13. (IF 2.791, Q2, 2018/2019).
2. **Horodincă, M.** (2013), A study on actuation power flow produced in an active damping system, *Mechanical Systems and Signal Processing* 39, pp. 297–315. (IF 5.005, Q1, 2018/2019)
3. **Horodincă, M.**, Seghedin, N., Carata, E., Boca, M., Filipoaia C., and Chitariu, D., (2014), Dynamic Characterisation of Piezoelectric Actuated Mechanical Systems Using Energetic Parameters, *Mechanics of Advanced Materials and Structures*, vol 21, issue 2, pp. 154-164. (IF 2.874, Q1, 2018/2019)
4. **Horodincă, M.**, Seghedin, N., Carata, E., Filipoaia, C., Boca, M. and Chitariu, D. (2013), Experimental Investigations of the Power Absorbed at Mechanical Resonance. *Experimental Techniques*, vol. 30, Issue 7, pp. 21-31. (IF 0.779, Q3, 2018/2019).
5. Alaluf, D., Bastaits R., Wang K., **Horodincă M.**, Martic G., Mokrani B., Preumont A., (2018), Unimorph Mirror for Adaptive Optics in Space Telescopes, *Applied Optics*, Vol. 57, No. 14 . (IF 1.973, Q2, 2018/2019).
6. Mokrani, B., Bastaits, R., **Horodincă, M.**, Romanescu, I., Burda, I., Vigiú, R., Preumont A., (2015), Parallel piezoelectric shunt damping of rotationally periodic structures, *Advances in Materials Science and Engineering*, vol. 2015, pp. 1-12, Article ID 162782. (IF 1.399, Q4, 2018/2019)
7. Bastaits, R., Alaluf, D., **Horodincă, M.**, Romanescu I., Burda, I., Martic, G., Rodrigues, G., Preumont, A., (2014), Segmented bimorph mirrors for adaptive optics: segment design and experiment, *Applied Optics*, vol. 53, no. 29, pp. 6635-6642. (IF 1.973, Q2, 2018/2019)
8. Preumont A., **Horodincă M.**, Romanescu I., de Marneffe B., Avraam M., Deraemaeker A., Bossens F, Abu Hanieh A., (2007) A six-axis single-stage active vibration isolator based on Stewart platform, *Journal of Sound and Vibration*, vol. 300, Issues 3-5, March 2007, Pages 644-661, ISSN 0022-460X. (IF 3.123, Q1, 2018/2019)
9. Collette, C., **Horodincă, M.**, Preumont, A., (2009) Rotational vibration absorber for the mitigation of rail rutting corrugation, *Vehicle System Dynamics*, ISSN 0042-3114, Volume 47, Issue 6, June 2009, pages 641–659. (IF 2,613, Q2, 2018/2019)
10. Avraam, M., **Horodincă, M.**, Romanescu, I., Preumont, A., (2010) Computer Controlled Rotational MR-brake for Wrist Rehabilitation Device, *Journal of Intelligent Material Systems and Structures*, ISSN: 1045-389X, Vol 21, nr. 15, pages 1543-1557. (IF 2,582, Q2, 2018/2019)
11. Abu Hanieh, A., **Horodincă M.**, Preumont, A., (2002) Six-degrees-of-freedom hexapods for active damping and active isolation of vibrations, *Journal de Physique IV*, (now *European Physical Journal-Special Topics*), Vol. 12, Pr11-41-Pr11-48, December, 2002. ISBN 2-86883-649-6. (IF 1,660, Q2, 2018/2019)
12. Ganguli, A., Deraemaeker, A., Romanescu, I., **Horodincă, M.**, Preumont, A., (2006) Simulation and Active Control of Chatter in Milling via a Mechatronic Simulator, *Journal of Vibration and Control*, vol. 12 No 8, pp. 817-848, August 2006, ISSN 1077-5463. (IF 2.865, Q1, 2018/2019)
13. de Marneffe, B., Avraam, M., Deraemaeker, A., **Horodincă, M.**, Preumont, A., (2009) Vibration Isolation of Precision Payloads: A six-axis Electromagnetic Relaxation Isolator, *AIAA Journal of Guidance, Control and Dynamics*, ISSN 0731-5090, vol. 32. No. 2 March-April 2009, pp.395-401. (IF 2.061, Q1, 2018/2019)
14. Collete, C., Fueyo-Roza, L., **Horodincă, M.**, (2014), Prototype of small low noise absolute displacement sensor, *IEEE Sensors Journal*. Volume: 14 Issue: 1Pages: 91-95. (IF 3.076, Q2, 2018/2019)

Patents:

1. **Horodincă, M.**, Carata, E., Seghedin N. E.,(2019), *Linear Electromagnetic Actuator With Fixed Travel And Selectable Operating Mode, as Bistable or Monostable*, RO128674 (B1).
2. **Horodincă, M.**, Seghedin N. E., Carata, E., Boca, M., Filipoaia C., Chitariu D., (2018), *Micro-Positioning, Micro-Orientation and Micro-Displacement System with Six Degrees of Freedom*, RO127506 (B1).
3. **Horodincă, M.**, Doroftei, I. (2000), *Conical Planetary Gear Reducer Having a Central Wheel*, RO 116224 (B1).
4. **Horodincă, M.**, (2004), *Absolute Angular Position Probe and Method for Measuring Angular Displacement*, RO 119487 (B1).
5. **Horodincă, M.**, Seghedin, N., (1996), *Planetary Reduction Gear With Intermediary Solar Gears*, RO 111612 (B1).

6. **Horodincă, M.**, Seghedin, N., Gafincu, M., (1996), *Reduction Gear with Cylindrical Gear Wheels and Quadrilateral Mechanism*, RO 111610 (B1).
7. **Horodincă, M.**, (1993), *Absolute Analogical Transducer of Rotation And Method of Measurement for Angular Displacements*, RO 106610 (B1).
8. Doroftei, I., **Horodincă, M.** (2000), *Planetary Motor Reducer with Restrained Satellite and Mobile Seating*, RO 116120 (B).
9. Doroftei, I., **Horodincă, M.**, Merticaru, V., (2000), *Planetary Reduction-Gear with Fixed-Point and Multiple- End Satellite*, RO 115822 (B).
10. Doroftei, I., **Horodincă, M.**, (1998), *Planetary reduction gear box*, RO 113588 (B).
11. Doroftei, I., **Horodincă, M.**, (1997), *Planetary Switch*, RO 112130 (B).

Date: 25.04.2020 ; Place: Iași, Romania

Signature:

A handwritten signature in blue ink, consisting of a stylized, cursive script that is difficult to decipher but appears to be the name of the author.