

**Lista de lucrări în domeniul de știință
definit de disciplinele din postul
scos la concurs:**
conferențiar poziția 7 din statul de funcții
al Departamentului de Inginerie Mecanică,
Fac. de Științe Tehnice și Umaniste, Universitatea Sapientia

NUMELE ȘI PRENUMELE: dr. ing. Tolvaly-Roșca Ferenc

I. LISTA PUBLICAȚIILOR RELEVANTE

1. **Tolvaly-Rosca F.**, Pásztor J., The Work Process Analysis of the Machines with Driven Work Organs Used in Preparation Works of the Seedbed, INMATEH-Agricultural Engineering, vol. 58, No.2/ 2019, ISSN 2068 – 2239, DOI: 10.35633/INMATEH-58-01
2. Bitay E., Kiss-Pataki B., Indrea E., Kacsó I., **Tolvaly-Roșca F.**, Bratuc I, Veress E., *Provenance Study on a Small Selection of Roman Potshards (Tășnad-Sere Site, Satu Mare County, Romania). 2.*, Studia Universitatis Babes Bolyai, Studia Chemia, Issue nr.2/2019, ISSN 2065-9520, DOI:10.24193/subbchem.2019.2.41
3. **F. Tolvaly-Rosca**, Z. Forgó, *Computing Algorithm for the Gear Tooth Space Points Cloud Envelope Generated by the Mixed Cad Method*, MACRo 2017, Proceedings of the 5th International Conference on Recent Achievements in Mechatronics, Automation, Computer Sciences and Robotics, <https://doi.org/10.1515/macro-2017-0013>.
4. **Tolvaly-Rosca F.**, Máté M., Forgó Z., Kakucs A., *Development of Helical Teethed Involute Gear Meshed with a Multi-Edge Cutting Tool Using a Mixed Gear Teeth Modeling Method*, Elsevier Procedia Engineering, Vol. 5, No 2, 2017, ISSN 1877-7058, pp. 153-158, ScienceDirect, <https://doi.org/10.1016/j.proeng.2017.02.421>
5. Sz. Sütő, Z. Forgó, **F. Tolvaly-Roșca**, *Simulation Based Human-robot Co-working*, Procedia Engineering, Volume 181, 2017, Pages 503-508, <https://doi.org/10.1016/j.proeng.2017.02.425>,
6. Forgó Z., **Tolvaly-Rosca F.**, *Analytical and Numerical Model of Low DOF Manipulators*, Elsevier, *Procedia Technology*, No 19, 2015, ISSN 2212-0173, pp. 40-47 ScienceDirect, <https://doi.org/10.1016/j.protec.2015.02.007>
7. **Tolvaly-Rosca F.**, I. Papp, *Kinematic Analysis of 2 DoF Spherical Mechanism Applying Constraint Equations*, MACRo 2015. Volume 1, Issue 1, Pages 235–244, ISSN 2247-0948, <https://doi.org/10.1515/macro-2015-0023>
8. **Tolvaly-Roșca F.**, Forgó Z., Máté M., *Evaluation of a Mixed CAD Gear Modeling from Time and Precision Point of View*, Elsevier, *Procedia Technology*, No 19, 2015, ISSN 2212-0173, pp. 28-33, ScienceDirect, <https://doi.org/10.1016/j.protec.2015.02.005>
9. **Tolvaly-Roșca F.**, Forgó Z., *Mixed CAD Method to Develop Gear Surfaces Using the Relative Cutting Movements and NURBS Surfaces*, Elsevier, *Procedia Technology*, No 19, 2015, ISSN 2212-0173, pp. 20-27, ScienceDirect, <https://doi.org/10.1016/j.protec.2015.02.004>
10. **Tolvaly-Rosca F.**, *The Cad-Analysis Of The Contact By The Cylindrical Gears Having Archimedic Spiral Shaped Teeth*, Inter-Eng 2012, Interdisciplinarity in Engineering, Tg. Mureș, Romania 2012. ISSN 2285-0945, ISSN 2285-0945, pp. 130-135. Ulrich's Periodicals Directory™ (U.S.), German National Library of Science and Technology (TIB).<http://jml2012.indexcopernicus.com/passport.php?id=769>, Scopus.

II. LISTA COMPLETĂ DE PUBLICAȚII, CREAȚII, INVENȚII

A. Teza de doctorat.

“Studiul preciziei angrenajelor conice prin metoda modelării parametrice solide”,
Conducător științific prof.dr.ing. Hollanda Dionisie, Universitatea Transilvania Brașov,
2006.

B. Cărți publicate

B1. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate la edituri recunoscute în străinătate.

B2. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate în țară, la edituri recunoscute CNCSIS/CNCS.

1. Tolvaly-Rosca, F., *A számítógépes tervezés alapjai. AutoLisp és Autodesk Inventor alapismeretek.* (Bazele proiectării asistate de calculator. Cunoștințe de bază din AutoLisp și Autodesk Inventor), Societatea Muzeului Ardelean. Erdélyi Múzeum Egyesület, Cluj Napoca, 2009, 200 pagini, ISBN 978-973-8231-81-8.

Tolvaly-Rosca F., *Gépelemek* (Organe de mașini), Societatea Muzeului Ardelean, Cluj Napoca, 2019, ISSN 2068-3081, ISBN 978-606-739-120-6, 380 de pagini.

B3. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate la alte edituri sau pe plan local.

1. Hollanda D., Tolvaly-Rosca F., *Forgácsolás és szerszámgépeken generált felületek elmélete. Laboratóriumi gyakorlatok. (Bazele aşchierii și generării suprafețelor. Îndrumar de laborator)* Universitatea Sapientia, Facultatea de Științe Tehnice și Umaniste, Tg. Mureș, 2006.

B4. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate pe web.

1. Tolvaly-Rosca Ferenc, *Gépelemek.* (Organe de mașini), <https://eda.eme.ro/handle/10598/31452>
2. Tolvaly-Rosca Ferenc, *A Reverse Engineering alapjai, (Bazele Reverse Engineering-ului)* Intranet .www.ms.sapientia.ro, 2017 (130 p.)
3. Tolvaly-Rosca Ferenc, *Speciálshajtások a mechatronikában. Laboratóriumi gyakorlatok. (Transmisii speciale în mecatronică. Lucrări de laborator).* Intranet .www.ms.sapientia.ro, 2014 (20 p.)
4. Tolvaly-Rosca Ferenc, *CNC vezérlés. Laboratóriumi gyakorlatok. (Conducerea CNC. Lucrări de laborator).* Intranet www.ms.sapientia.ro, 2009 (30 p.).
5. Tolvaly-Rosca Ferenc, *A számítógépes tervezés alapjai. (Bazele proiectării asistate de calculator), 2009.* <http://mek.oszk.hu/07300/07399/>. (200 p.)
6. Tolvaly-Rosca Ferenc, *CNC szerszámgépek programozása, (Programarea mașinilor-unelte cu CNC.).* Intranet www.ms.sapientia.ro, 2008. (300 p.)
7. Tolvaly-Rosca Ferenc, *Gépelemek. Laboratóriumi gyakorlatok. (Organe de mașini. Lucrări de laborator),* Intranet .www.ms.sapientia.ro, 2009 (40 p.)
8. Tolvaly-Rosca Ferenc, *Gyártástechnológia. Laboratóriumi gyakorlatok. (Tehnologii de fabricație. Lucrări de laborator),* Intranet www.ms.sapientia.ro, 2009 (20 p.)

B5. Capitole de cărți publicate în străinătate

B6. Capitle de cărți publicate în țară

C. Lucrări științifice publicate

C1. Lucrări științifice publicate în reviste cotate ISI

1. Bitay E., Kiss-Pataki B., Indrea E., Kacsó I., Tolvay-Roșca F. (NUMELE PUBLICAT CU GREȘEALĂ ORTOGRAFICĂ: Tolvay în loc de Tolvaly, necorectată încă), Bratuc I., Veress E., Provenance Study on a Small Selection of Roman Potshards (Tășnad-Sere Site, Satu Mare County, Romania). 2., Studia Universitatis Babes Bolyai, Studia Chemia, Issue nr.2/2019, ISSN 2065-9520, DOI:10.24193/subbchem.2019.2.41

Revistă cotată ISI: IF 2017: 0,305

https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=3&SID=E4PWd6XIq9nZChFcV5&page=1&doc=2

C2. Lucrări științifice publicate în reviste indexate în baze de date internaționale (indicați și baza de date).

1. Tolvay-Rosca F., Pásztor J., The Work Process Analysis of The Machines with Driven Work Organs Used in Preparation Works of the Seedbed, INMATEH-Agricultural Engineering, vol. 58, No.2/ 2019, ISSN 2068 – 2239, DOI: 10.35633/INMATEH-58-01

Revistă indexată ISI, WOS:

https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=3&SID=E4PWd6XIq9nZChFcV5&page=1&doc=1

2. F. Tolvaly-Roșca, M. Máté, Z. Forgó, A. Kakucs, *Development of Helical Teethed Involute Gear Meshed with a Multi-Edge Cutting Tool Using a Mixed Gear Teeth Modeling Method*, *Procedia Engineering*, Volume 181, 2017, Pages 153-158, <https://doi.org/10.1016/j.proeng.2017.02.421>

Indexată ISI Proceedings Paper:

https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=3&SID=E4PWd6XIq9nZChFcV5&page=1&doc=3

3. Sz. Sütő, Z. Forgó, F. Tolvaly-Roșca, *Simulation Based Human-robot Co-working*, *Procedia Engineering*, Volume 181, 2017, Pages 503-508, <https://doi.org/10.1016/j.proeng.2017.02.425>

Indexată ISI Proceedings Paper, WOS:

https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=3&SID=E4PWd6XIq9nZChFcV5&page=1&doc=4

4. F. Tolvaly-Rosca, Z. Forgó, *Mixed CAD Method to Develop Gear Surfaces Using the Relative Cutting Movements and NURBS Surfaces*, Science Direct: <http://www.sciencedirect.com/science/article/pii/S2212017315000055>, Procedia Technology Volume 19, 2015, Pages 20-27, <http://dx.doi.org/10.1016/j.protec.2015.02.004>

Indexată ISI Proceedings Paper, WOS:

https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=3&SID=E4PWd6XIq9nZChFcV5&page=1&doc=6

5. F. Tolvaly-Rosca, Z. Forgó., M. Máté, *Evaluation of a Mixed CAD Gear Modeling from Time and Precision Point of View*, <http://www.sciencedirect.com/science/article/pii/S2212017315000067>, Procedia Technology Volume 19, 2015, Pages 40-47, <http://dx.doi.org/10.1016/j.protec.2015.02.005>

Indexată ISI Proceedings Paper, WOS:

https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=3&SID=E4PWd6Xlq9nZChFcV5&page=1&doc=8

6. Z. Forgó, F. Tolvaly-Rosca, *Analytical and Numerical Model of Low DOF Manipulators*, <http://www.sciencedirect.com/science/article/pii/S2212017315000080>, Procedia Technology Volume 19, 2015, Pages 40-47, <http://dx.doi.org/10.1016/j.protec.2015.02.007>

Indexatã ISI Proceedings Paper, WOS:

https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=3&SID=E4PWd6Xlq9nZChFcV5&page=1&doc=7

7. F. Tolvaly-Rosca, I. Papp, *Kinematic Analysis of 2 DoF Spherical Mechanism Applying Constraint Equations*, MACRo 2015. Volume 1, Issue 1, Pages 235–244, ISSN (Online) 2247-0948, DOI: 10.1515/macro-2015-0023.

Indexatã ISI Proceedings Paper, WOS:

https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=3&SID=E4PWd6Xlq9nZChFcV5&page=1&doc=5

8. Z. Forgó, F. Tolvaly-Rosca, J. Pásztor, *Mathematical and assembly modeling of the mechanism for implementing intermittent rotational motion and speed setting of the metering shaft for seed drill*, 2017, MTÜ 2017, DOI: <https://doi.org/10.33894/mtk-2018.08.05..>, **Sciendocom (DeGruyter)**

9. F. Tolvaly-Rosca, A. Kakucs, Z. Forgó, M. Máté, *Comparative FEM Analysis of Gears Modeled With Analytical, Solid Subtracting and Mixed CAD Generating Method*, Proceedings of the 5th International Conference on Recent Achievements in Mechatronics, Automation, Computer Sciences and Robotics, <https://doi.org/10.1515/macro-2017-0014>.

DeGruyter, DBLP

10. F. Tolvaly-Rosca, Z. Forgó, *Computing Algorithm for the Gear Tooth Space Points Cloud Envelope Generated by the Mixed Cad Method*, MACRo 2017, Proceedings of the 5th International Conference on Recent Achievements in Mechatronics, Automation, Computer Sciences and Robotics, <https://doi.org/10.1515/macro-2017-0013>.

DeGruyter, DBLP

11. F. Tolvaly-Rosca, Z. Forgó, *Relatív vágómozgásokkal generált pontfelhők szűrési nehézségei*, XV.MTU_2017, **Google Academic, Google Scholar, eda.eme**, <https://www.semanticscholar.org>, <http://hdl.handle.net/10598/30080>

12. Z. Forgó, R. Filep, F. Tolvaly-Rosca, *Végtagszonk és protézis nyomáeloszlásának vizsgálata*, XIV.MTU_2016, **Google Academic, Google Scholar, eda.eme**, <https://www.semanticscholar.org>, <http://hdl.handle.net/10598/29735>,

13. F. Tolvaly-Rosca, *Modern fogaskerék modellezési eljárások összehasonlító tanulmánya*, <http://hdl.handle.net/10598/28546>, ISBN: 978-606-8178-80-6, 2016, **Google Academic, Google Scholar, eda.eme**, <https://www.semanticscholar.org>, <http://hdl.handle.net/10598/28546>

14. A. Kakucs, Z. Forgó, P. Dani, F. Tolvaly-Rosca, I. Száva, *Prediction Of Extreme Values Using Artificial Neural Network*, http://www.researchgate.net/profile/Janos_Ioan_Szava/publication/272943412_Prediction_of_extreme_values_using_artificial_neural_network/links/54f3a9dc0cf24eb8794c31f6.pdf,

15. N. Máriás, F. Tolvaly-Roșca, Stirling motoros naperőmű, XX FMTÜ, Kolozsvár 2015, http://eda.eme.ro/xmlui/bitstream/handle/10598/28660/EME_20_FMTU_2015_Marias-Tolvaly-Rosca_211-214old.pdf?sequence=3, Google Academic, Google Scholar, eda.eme, <https://www.semanticscholar.org> <http://hdl.handle.net/10598/28660>
16. Á. L. Péter, B. Faludi, F. Tolvaly-Roșca, Gantry típusú hobby CNC marógép tervezése és építése, XX FMTÜ, Kolozsvár 2015, http://eda.eme.ro/xmlui/bitstream/handle/10598/28661/EME_20_FMTU_2015_Peter-Faludi-Tolvaly%20Rosca_255-258old.pdf?sequence=3, Google Academic, Google Scholar, eda.eme, <https://www.semanticscholar.org> <http://hdl.handle.net/10598/28661>
17. Z. László, H. Suteu, F. Tolvaly-Roșca, Sűrített levegővel hajtott jármű tervezése és építése, XX FMTÜ, Kolozsvár 2015, http://eda.eme.ro/xmlui/bitstream/handle/10598/28658/EME_20_FMTU_2015_Laszlo_Suteu_Tolvaly-Rosca_199-202old.pdf?sequence=3, Google Academic, Google Scholar, eda.eme, <https://www.semanticscholar.org> <http://hdl.handle.net/10598/28658>
18. Forgó Z, Tolvaly-Rosca F., *Gantry típusú, párhuzamos hajtású robot modellezése és vizsgálata*, „A Magyar Tudomány Napja Erdélyben”, 2014, Cluj-Napoca Erdélyi MúzeumEgyesület 2014. ISBN: 978-606-8178-80-6. <http://hdl.handle.net/10598/28552>, Google Academic, Google Scholar, eda.eme, <https://www.semanticscholar.org> <http://hdl.handle.net/10598/28552>
19. A. Kakucs, I. Papp, F. Tolvaly-Roșca, Z. Forgó, *Bolygódugattyús pneumatikus motor*, XIV Műszaki Tudományok Ülésszaka, Kolozsvár 2013, ISBN 978-606-8178-80-6, pp.81-93. Google Academic, Google Scholar, <http://eda.eme.ro/handle/10598/28175>, Google Academic, Google Scholar, eda.eme, <https://www.semanticscholar.org>
20. I. Papp, F. Tolvaly-Roșca, *Új módszer a karos mechanizmusok dinamikus kiegyensúlyozására*, Kolozsvár 2013, ISBN 978-606-8178-80-6, pp.109-121, Google Academic, Google Scholar, eda.eme, <https://www.semanticscholar.org> http://eda.eme.ro/bitstream/handle/10598/28087/XIV.MTU_Papp-Tolvaly-Rosca.pdf?sequence=1
21. F. Tolvaly-Rosca, The Cad-Analysis Of The Contact By The Cylindrical Gears Having Archimedic Spiral Shaped Teeth, Inter-Eng 2012, Interdisciplinarity in Engineering, Tg. Mureș, Romania 2012. ISSN 2285-0945, ISSN L2285-0945, pp. 130-135. Ulrich's Periodicals Directory™ (U.S.), German National Library of Science and Technology (TIB), <http://jml2012.indexcopernicus.com/passport.php?id=769>, Scopus.

C3. Lucrări științifice publicate în reviste din străinătate (altele decât cele menționate anterior).

C4. Lucrări științifice publicate în reviste din țară, recunoscute CNCSIS/CNCS (altele decât cele din baze de date internaționale).

1. Hollanda, D., Máté, M., Tolvaly-Roșca, F., *Kúpfogaskerék fogprofil-mérőkészülék (Aparat pentru măsurarea profilului danturilor conice)*. The 17-th International Conference



- on Mechanical Engineering, Gheorgheni, 2009. Volum de conferință editat în cadrul revistei „MűszakiSzemle” (acreditată CNCISIS), ISSN 1454-0746, pag. 161-164.
2. Popa-Müller, I., **Tolvaly-Rosca, F.** *Simularea danturării roților dințate conice cu dantură în arc de cerc pe mașina Gleason cu ajutorul roții plane*, The 17-th International Conference on Mechanical Engineering, Gheorghieni, 2009. Volum de conferință; editat în cadrul revistei MűszakiSzemle (acreditată CNCISIS), ISSN 1454-0746, pp. 331-335.
 3. Kakucs A., Dani P., Costantin V., Száva I., **Tolvaly-Rosca F.**, Popa S.C., *New Method in Modeling Intumescent Coatings*, International Conference on Material Science and Engineering, 22-24 February 2007, Transilvania University of Braşov, Romania, Bulletin of Transilvania University of Brasov, Supliment BRAMAT 2007, pp.27., Transilvania University Press, 2007, ISSN-1223-9631, pp. 27-31.
 4. **Tolvaly-Rosca, F.**, *Solutions To Solve Some Data Exchange Problems Between CAD Applications Regarding Surface and Solid Models*, 15 th International Conference in Mechanical Engineering, Cluj Napoca, Technical Review, 2007, ISSN. 1454-0746, pp.395-398.
 5. Kakucs A., Forgó Z., Dani P., **Tolvaly-Rosca F.**, Száva I., *Predicting Extreme Values Using Artificial Neural Networks*, International Workshop Advanced Resarches in Computational Mechanics and Virtual Engineering 2006, Braşov, Editura Universităţii Transilvania Braşov, ISBN 973-635-823-2, ISBN 978-973-821-0, pp.323-326.
 6. Száva, I., Hodúr, C., Forgács, E., Enache, V., Forgó, Z., Kakucs, A., Hlipcă, P., **Tolvaly-Rosca, F.**, *Elastical Properties of the Cylindert Head Gaskets Materials*, Annals of the Faculty of Engineering Hunedoara, Tome II, Fascicule 2, Editura Mirton Timișoara, 2005. ISSN 1584-2665, pp. 96-100.
 7. Kakucs, A.; Forgó, Z.; Dani, P.; Száva, I., **Tolvaly-Rosca, F.**, *Theoretical and experimental reserches of a planar mechanism from vibration's point of view (part two)*, Proceeding of CDM Braşov, may 2005, Universitatea Transilvania, Braşov (2005), ISBN 973-635-513-6, Vol II, pp.225-228.
 8. Kakucs, A.; Forgó, Z.; Dani, P.; Száva, I., **Tolvaly-Rosca, F.**, *Theoretical and experimental reserches of a planar mechanism from vibration's point of view (part one)*, Proceeding of CDM Braşov, may 2005, Universitatea Transilvania, Braşov (2005), ISBN 973-635-513-6, Vol II, pp.225-228.

C5. Lucrări științifice publicate în reviste, altele decât cele menționate anterior

C6. Lucrări științifice publicate în volumele manifestărilor științifice

1. **F. Tolvaly-Rosca, Z. Forgó, Kakucs A., Máté M.**, Particularities of Finite Element Analysis of Gear Models Generated in Virtual Environment, The 26-th International Conference on Mechanical Engineering, 2018 Tg. Mureş, Romania, ISSN 2068-1267, pp.102-105.
2. Kakucs, A. Forgó Z., **TolvalyRosca F.**, *Pneumatic Motor With Planetary Piston*, Proceedings of Ist Agria Conference on Innovative Pneumatic Vehicles ACIPV 2017, May 05, 2017 Eger, Hungary, Óbuda University, Institute of Mechatronics and Vehicle Engineering, ISBN 978-963-449-022-7, pp.47-50.
3. Z. Forgó, F. Tolvaly-Rosca, *The Robots as Medical Devices*, Conference Book of the 3rd International Interdisciplinary 3D Conference, 5-6 October 2017, University of Pécs, ISBN 978-963-429-165-7, **abstract**.

4. **Tolvaly-Rosca F.**, *Development of a Mixed CAD Method for Teeth Generation, Based on the Relative Cutting Movements*, The 24-th International Conference on Mechanical Engineering, 2016 Deva, Romania, **sesiunea plenară**. ISSN 2068-1267, pp.12-17.
5. J. Pásztor, **F. Tolvaly-Rosca**, Z. *Forgó fogborona modellezése*, OGÉT 2015, Csíksomlyó, ISSN 2068-1267.
6. **Tolvaly-Rosca F.**, Forgó Z., *Precision Study of Speeded Tooth Surface Modelling Procedure. (Gyorsított fogfelület-modellezési eljárás pontosság vizsgálata)*. 22nd International Conference of Mechanical Engineering, Sibiu, Romania 2014, ISSN 2068-1267, pp. 415-418.
7. **Tolvaly-Rosca F.**, Forgó Z., *Gearing Precision Study of Cylindrical Gears Having Archimedean Spiral Shaped Teeth in CAD Environment*, The 21-st International Conference on Mechanical Engineering 2013, Arad, Romania. ISSN 2068-1267, pp.415-418.
8. Máté M., Hollanda D., **Tolvaly-Rosca F.**, Popa-Müller I., *The Localization of the Contact Pattern by Spur Gears with Archimedean Tooth Line by Setting of Tangential Displacement*, The 21-st International Conference on Mechanical Engineering 2013, Arad, Romania. ISSN 2068-1267, 265-268.
9. Forgó Z., **Tolvaly-Rosca F.**, *Simulation of Robot Systems Using Automation ML and COLLADA*, The 21-st International Conference on Mechanical Engineering, 2013 Arad, Romania. ISSN 2068-1267, pp.122-124.
10. **Tolvaly-Rosca F.**, *Solid Modeling of a New Internal Combustion Type Engine Mechanism (Új típusú robbanómotor hajtásának a számítógépes testmodellezése)*. The 18-th International Conference on Mechanical Engineering, Kolozsvár, 2012. ISSN 2068-1267, pp. 466-470, pp. 452-456.
11. **Tolvaly-Rosca F.**, *New, precise and fast gear modeling method*, The 18-th International Conference on Mechanical Engineering, Baia Mare, 2010. ISSN 2068-1267, pp.452-455.
12. **Tolvaly-Rosca F.**, Forgó Z., Kakucs A., Száva I., *Some Results Obtained in Kinematic Studies of Bevel Gearing Process Precision, Effectuated in Virtual Environment on Solid Gear Models*, microCAD 2008 International Scientific Conference Miskolc. Hungary 2008, ISBN 978-963-661-812-4 Ö, ISBN978-963-661-9, pp. 85-90.
13. Forgó Z., **Tolvaly-Rosca F.**, Kakucs A., Száva I., *Matrix Form Closure Equations for Geometrical Modeling of Mechanisms*, microCAD 2008 International Scientific Conference Miskolc, miskolc, Hungary 2008, ISBN 978-963-661-812-4, ISBN978-963-661-9, pp. 25-30.
14. Kakucs A., Száva I., **Tolvaly-Rosca F.**, Forgó Z., *New Method in Numerical Analysis of Hydraulic Circuits*, microCAD 2008 International Scientific Conference Miskolc, Miskolc, Hungary 2008, ISBN 978-963-661-812-4, ISBN978-963-661-9, pp. 21-26.
15. **Tolvaly-Rosca, F.**, Hollanda, D., Száva, J., Kakucs, A., Forgó, Z., *Contact Algorithm in VBA, for Kinematic Studies on Rigid, Solid Gear Models*, microCAD International Scientific Conference, march 2006, Miskolc, Hungary., ISBN 963 661 700 7, ISBN 963 661 706 6, pp. 31-36.
16. **Tolvaly-Rosca, F.**, Hollanda, D., Száva, I., *Processing Kinematical CAD Simulation Measuring Results of a Bevel Gear Drive, Using MathCad*. OGET 2006, 14th International



Conference in Mechanical Engineering, Tg. Mures, 2006. ISBN (10) 973-7840-10-0, ISBN (13) 978-973-7840-10-2, pp. 354-357.

17. **Tolvaly-Rosca, F.**, Forgo, Z., *Solid Modeling of Bevel Gears with Spherical Involute, Octoid I and Octoid II type profiles*, Proceedings of 13th 11th, International Conference in Mechanical Engineering OGET 2005, Satu Mare, 2005, ISBN 973-7840-03-8, pp. 332-335.
18. Száva, I., V. Enache, E. Forgacs, C. Hodur, A. Kakucs, I. Papp, Forgó, Z., **Tolvaly-Rosca, F.**, *Experimental Investigation of the Main Bearing Zone Elastical Properties from Parametrical Vibrations' point of View Using Holographic Interferometry*, Proceedings of the 3rd International Conference on Dynamics of Civil Engineering and Transport Structures and Wind Engineering, Vratna, Sk, 2005, ISBN 80-8070-352-5, pp. 147-150.
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21. Kakucs A., Forgó, Z., **Tolvaly-Rosca, F.**, Papp, I., Száva, J., Dani, P., Lőrincz, A., *Egy síkmechanizmus sajátfrekvencia szélsőértékei (Valorile extreme ale frecvenței proprii la un mecanism plan)*, microCAD International Scientific Conference March 2005, Miskolc, 2005, Hungary, ISBN 963 661 646 9 8, ISBN 963 661 653 1, pp.73-78.
22. Tolvaly-Rosca, F., Hollanda, D., Forgó, Z., Száva, J., *Kinematic studies of straight bevel gears with octoid II, octoid I and exact involute profiles, using solid models*, Proceedings of the 7th International Conference Modern Technologies in Manufacturing, Cluj Napoca, 2005, ISBN 973-9087-83-3, pp. 399-402.
23. **Tolvaly-Rosca, F.**, Forgo, Z., *Solid Modeling of Bevel Gears with Spherical Involute, Octoid I and Octoid II type profiles*, Proceedings of 13th 11th, International Conference in Mechanical Engineering OGET 2005, Satu Mare, 2005, ISBN 973-7840-03-8, pp. 332-335.
24. Hollanda, D., **Tolvaly-Rosca, F.**, *Measuring Dynamic Parameteres of a Gearing Process, on Solid Model of a Straight Bevel Gear Drive*, microCAD, International Scientific Conference, Miskolc, 2004, HU, ISBN 963-661-608-6, 963-661-617-5, pp. 31-36.
25. Száva, I.; Dani, P.; Enache, V.; Forgó, Z.; **Tolvaly-Rosca, F.**, *Térbeli ráccstartó modelljének elemzése induktív elmozdulásmérők és holografikus interferometria segítségével (Analiza modelului unei grinzi spațiale cu zăbrele cu ajutorul senzorilor de deplasare inductivi și a interferometriei holografice)*, Magyarország földrengésbiztonsága. Modellezés, méretezés, Győr, 2004, HU, ISBN 963-7175-24-5, pp.194-205.
26. **Tolvaly-Rosca, F.**, *Optimal Design of Bended Sheet Metal Forms In Order to Fit on Revolved Surfaces*, microCAD, Miskolc, 2003, ISBN 963 661 547 0, ISBN 963 661 559 4, pp.209-214.
27. **Tolvaly-Rosca, F.**, *Computer aided designing of fixing and supporting elements on revolution surfaces*, BRAMAT, Braşov, 2003, ISBN 973-635-124-6, pp.134-137.
28. **Tolvaly-Rosca, F.**, *About the gearing modelling, with solid parametrical models*, 11th, International Conference in Mechanical Engineering, Cluj Napoca, 2003, ISBN 973-86097-2-0, pp.240-242.
29. Hollanda, D., **Tolvaly-Rosca, F.**, *Solid modelling of a strigh tbevel gear drive*. Inter-Ing 2003, Tg. Mures, 2003, ISBN 973-8084-81-4, pp. c.

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31. **Tolvaly-Rosca, F.**, *Interaktív posztprocesszor számvezérlésű szerszámgépekhez. Postprocesor interactiv pentru mașin-unelte cu comandă numerică*, X OrszágosGépészTalálkozó, Odorheiu Secuiesc, 2002, ISSN 145-0746, pp. 249-251.

32. Hollanda, D., Máté, M., **Tolvaly-Rosca, F.**, *Universal Bevel Gear Tooth Profile ControllingDevice*, Production Processes And Systems, Miskolc, 2002, HU, ISSN1215-0851, 115-120.

D. Traduceri de cărți, capitole de cărți, alte lucrări științifice

E. Editare, coordonare de volume

F. Brevete de invenții și alte titluri de proprietate

G. Contracte de cercetare (menționați calitatea de director sau membru)

DIRECTOR

1. Dezvoltarea procedurii de modelare mixtă a roților dințate și evaluarea calitativă de analiză cu element finit a modelelor construite. Contract cu Institutul Programelor de Cercetare a Fundației Sapientia, Program de Cercetare al Facultății 2015-2016, Contr. 12/19/2015.04.28, 10.100 RON,

Rezultate:

5 publicații cotate ISI

3 citări independente ISI

1 publicație BDI

3 publicații în volume de conferințe

Membru în colective de cercetare

2. Dezvoltare motor pneumatic cu piston rotativ. Contract cu Institutul Programelor de Cercetare a Fundației Sapientia, 11.000 RON, **membru**. Conducător: conf.dr.ing. Kakucs András, 2013-2014.

3. Dezvoltare motor pneumatic cu piston rotativ. Contract cu Institutul Programelor de Cercetare a Fundației Sapientia, 12.000 RON, **membru**. Conducător: conf.dr.ing. Kakucs András, 2011-2012.

4. Dezvoltare motor pneumatic cu piston rotativ. Contract cu Institutul Programelor de Cercetare a Fundației Sapientia, 12.000 RON, **membru**. Conducător: conf.dr.ing. Kakucs András, 2012-2013.

5. Modelarea și realizarea practică a unui robot paralel cu patru grade de libertate. , Institutul Programelor de Cercetare, Cluj-Napoca, 2012, 9000 RON, **membru**. Conducător: șef lucrări.dr.ing.Forgó Zoltán.

6. Determinarea accelerațiilor ale elementelor din mecanisme cu bare articulate cu ajutorul ecuațiilor de constrângere. Contract cu Institutul Programelor de Cercetare a Fundației Sapientia, 5.800 RON, **membru**. Conducător: conf.dr.ing. Papp István, 2008-2009.

7. Studiul teoretic (prin M.E.F.) și practic (experimental) al vopselelor termoizolante termosfumante (intumescente). Contract cu Institutul Programelor de Cercetare a Fundației Sapienția, 5.746 RON, **membru**. Conducător: șef.lucr.dr.ing. Kakucs András, 2008-2009.
8. Studiul teoretic (prin M.E.F.) și practic (experimental) al vopselelor termoizolante termosfumante (intumescente). Contract cu Institutul Programelor de Cercetare a Fundației Sapienția, 18.720 RON, **membru**. Conducător: prof.dr.ing. Száva Ioan, 2006-2007.
9. Studiul teoretic (prin M.E.F.) și practic (experimental) al vopselelor termoizolante termosfumante (intumescente). Contract cu Institutul Programelor de Cercetare a Fundației Sapienția, 6.250 RON, **membru**. Conducător: șef.lucr.dr.ing. Kakucs András, 2007-2008.
10. Analiza, modelarea și realizarea unui nou manipulator de tip SCARA, Institutul Programelor de Cercetare, Cluj-Napoca, 2008-2009, 7.855 RON, **membru**. Conducător: șef lucrări.dr.ing.Forgó Zoltán.
11. Proiectarea și fabricarea frezei melc fără eroare de profil teoretic și optimizat. Contract cu Institutul Programelor de Cercetare a Fundației Sapienția, Nr. 1160/2005, 2005-2006, 9.713 RON, **membru**. Conducător: Conf. Dr. Ing. Maté, M.
12. Aparat universal de măsurat profilul dinților roților dințate conice. Contract cu Institutul Programelor de Cercetare a Fundației Sapienția, Nr.1018/2001, 2001-2002, 8.400 RON, **membru**. Conducător: Prof. Dr. Ing. Hollanda, D.
13. Aparat universal de măsurat profilul dinților roților dințate conice. Contract cu Institutul Programelor de Cercetare a Fundației Sapienția, Nr.415/2002, 2002-2003, 18.000 RON, **membru**. Conducător: Prof. Dr. Ing. Hollanda, D.
14. Aparat universal de măsurat profilul dinților roților dințate conice. Contract cu Institutul Programelor de Cercetare a Fundației Sapienția, Nr.1904/2003, 2003-2004, 16.500 RON, **membru**. Conducător: Prof. Dr. Ing. Hollanda, D.
15. Aparat universal de măsurat profilul dinților roților dințate conice. Contract cu Institutul Programelor de Cercetare a Fundației Sapienția, Nr.1330/2004, 2004-2005, 17.710 RON, **membru**. Conducător: Prof. Dr. Ing. Hollanda, D.

Rezultate:

Brevet de invenție nr. 118485 B1 din 30.03.2004

H. Creația artistică

- H1 Participări la manifestații artistice internaționale**
- H2. Participări la manifestații artistice naționale**
- H3. Expoziții, filme, spectacole, concerte, discuri de autor, opere internaționale**
- H4. Expoziții, filme, spectacole, concerte, discuri de autor, opere naționale**
- H5. Produse cu drept de proprietate intelectuală în domeniul artistic**

III. RECUNOAȘTEREA

I. Premii, distincții.

1. Premiul "*Főgépész Díj*" pentru activitatea desfășurată în cadrul Societății Maghiară Tehnico-Științifică din Transilvania (Erdélyi Magyar Műszaki Tudományos Társaság), respectiv pentru dezvoltarea rețelei științifice ale acestuia, Deva, 2016.
2. Distincție pentru pregătirea echipei proprii la concursul internațional Pneumobil 2014 Eger Ungaria, locul III Cat Construcție, Aventics

3. Distincție pentru pregătirea echipei proprii la concursul internațional Pneumobil 2019, Eger Ungaria, loc III viteză, Emerson

J. Citări

1. (C2/4) **Tolvaly-Rosca Ferenc**, Forgó Zoltán, *Mixed CAD Method to Develop Gear Surfaces Using the Relative Cutting Movements and NURBS Surfaces*, Elsevier, *Procedia Technology*, No 19, 2015, ISSN 2212-0173, pp. 20-27, (ScienceDirect)

Citat de:

- A. G. Bendefy, A. Piros, P. Horák, *Arbitrary vehicle steering characteristics with changing ratio rack and pinion transmission*, *Advances in Mechanical Engineering*, SAGE journals, Vol 7, Issue 12, 2015 (DOI: 10.1177/1687814015619279) IF: 0.866
- B. T. Xiang, L. Gu, L. Xiao, *Accurate modeling of logarithmic spiral bevel gear based on the tooth flank formation and Boolean addition operation*, *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, Vol 230, Issue 9, pp. 1650 – 1658, 2016 (DOI: 10.1177/0954405416660998), IF: 1.078
- C. M. S. Nobrega, L. Henrique; de Lima Junior, J. Carlos et al., *Development of a measurement strategy, based on NURBS, for the determination of Total Profile Deviation (F-alpha) in spur gears*, *International Journal of Advanced Manufacturing Technology* Volume: 99 Issue: 5-8 Pages: 1313-1328, Published: NOV 2018. DOI: 10.1007/s00170-018-2538-0, IF: 2.601
- D. N.K. Mandal, N.K. Singh, U.C. Kumar, *Interactive Spur Gear Generation Using Parametric Programming with CNC End Milling*, *International Journal of Mechatronics and Electrical and Computer Technology*, Vol. 6(22), Oct. 2016, pp. 3172-3187, ISSN: 2305-0543, BDI, Index Copernicus.
- E. L.H.M.S. Nobrega, *Desenvolvimento de uma estratégia de medição, baseada em nurbs, para determinação do desvio total de perfil (fa) de engrenagens cilíndricas de dentes retos usando MMCs*, PHD Thesis, Universidade Federal da Paraíba, Brasil. 2016.
- F. B. Wonnenberg, A. Müller, K. Dröder, *Comparison of design approaches to generate tools for a forming process with a six degree of freedom press*, AIP Conference Proceedings 2113, 110005 (2019); <https://doi.org/10.1063/1.5112648>

2. (C2/6) Z. Forgó, **F. Tolvaly-Rosca**, *Analytical and Numerical Model of Low DOF Manipulators*,
<http://www.sciencedirect.com/science/article/pii/S2212017315000080>,
<http://dx.doi.org/10.1016/j.protcy.2015.02.007>

Citat de:

- A. T. Harada, T. Makino, *Schönflies motion parallel robot driven by differential screws and differential belt drives*, *The Proceedings of JSME annual Conference on Robotics and Mechatronics (Robomec)* 2016, ISSN : 2424-3124,
<https://doi.org/10.1299/jsmermd.2016.2P2-13b3>.

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B. T. Harada, Novel Schönflies Motion Parallel Robot Driven by Differential Mechanism, International Journal of Mechanical Engineering and Robotics Research Vol. 9, No. 1, ISSN 2278-0149, January 2020, DOI: 10.18178/ijmerr.9.1.106-110

3. (C2/3) Sz. Sütő, Z. Forgó, F. Tolvaly-Rosca, *Simulation Based Human-robot Co-working*, Procedia Engineering, Volume 181, 2017, pp. 503-508, <https://doi.org/10.1016/j.proeng.2017.02.425>

Citat de:

A. Zs. Kemény, R. Beregi, J. Nacs, Cs. Kardos, D. Horváth, *Human-robot collaboration in the MTA SZTAKI learning factory facility at Győr*, Elsevier, Procedia Manufacturing, Volume 23, 2018, pp.105-110, <https://doi.org/10.1016/j.promfg.2018.04.001>, ISI proceedings paper: http://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=33&SID=E4vfjhGohhq4qSmb1El&page=1&doc=1

B. D. Stadnicka, D. Antonelli, *Human-robot collaborative work cell implementation through lean thinking*, International Journal of Computer Integrated Manufacturing, DOI: 10.1080/0951192X.2019.1599437, http://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=37&SID=E4vfjhGohhq4qSmb1El&page=1&doc=1

C. A. Gallala, B. Hichri, P. Plapper, *Survey: The Evolution of the Usage of Augmented Reality in Industry 4.0*, IOP Conference Series: Materials Science and Engineering, Volume 521, Number 1, 2019, <https://doi.org/10.1088/1757-899X/521/1/012017>.

4. (B2/1) Tolvaly-Rosca, F., *A számítógépes tervezés alapjai. AutoLisp és Autodesk Inventor alapismeretek. (Bazele proiectării asistate de calculator. Cunoștințe de bază din AutoLisp și Autodesk Inventor)*, Societatea Muzeului Ardelean. Erdélyi Múzeum Egyesület, Cluj Napoca, 2009, ISBN 978-973-8231-81-8.

Citat de:

A. J. Pásztor, Z. Forgó, *Forgóborona munkaeszközének kinematikai vizsgálata*, Műszaki Tudományos Közlemények, Fiatal Műszakiak Tudományos Ülésszaka, 2015. Kolozsvár, ISBN: 978-606-8178-80-6, pp.247-250, <http://hdl.handle.net/10598/28663>, eda.eme, Google Scholar.

B. J. Pásztor, Z. Forgó, *Ásógép munkaeszközének kinematikai és dinamikai vizsgálata*, Műszaki Tudományos Közlemények, Fiatal Műszakiak Tudományos Ülésszaka, 2014. Kolozsvár, ISBN: 978-606-8178-80-6, pp.325-328, <http://hdl.handle.net/10598/28271>.

5. (C2/5) F. Tolvaly-Rosca, Z. Forgó., M. Máté, *Evaluation of a Mixed CAD Gear Modeling from Time and Precision Point of View*, <http://www.sciencedirect.com/science/article/pii/S2212017315000067>, Procedia Technology Volume 19, 2015, Pages 40-47.

Citat de:

A. Ningning Wang, Dandan Zhao, Qingxue Zhang, Wenguang Han, *Helical Modification and Analysis of Straight Spur Gear*, International Journal of Recent

6. (C4/3) Kakucs A., Dani P., Costantin V., Száva I., **Tolvaly-Roșca F.**, Popa S.C., *New Method in Modeling Intumescent Coatings, International Conference on Material Science and Engineering*, 22-24 February 2007, Transilvania University of Brașov, Romania, Bulletin of Transilvania University of Brasov, Supliment BRAMAT 2007, pp.27., Transilvania University Press, 2007, ISSN-1223-9631, pp. 27-31.

Citat de:

- A. I.R. Munteanu, C. Ambrus, *A Possible Solution With Passive Protection Structural Resistance Elements to Cargo Ships*, Journal of Industrial Design and Engineering Graphics, Vol. 9 No. 2 (2014): Special Issue, pp. 41-44, ISSN 2344-468.
- B. I. R. Munteanu, P. Dani, B.-P. Gálfi, L. Serbina, *Original Electric Stand and Approach on the Intumescent Paint's Experimental Investigation*, ACTA TECHNICA NAPOCENSIS, Series: Applied Mathematics, Mechanics, and Engineering, Vol. 58, Issue II, June, 2015, pp. 279-284, (CNCSIS B+).

K. Alte realizări semnificative.

dr.ing. Tolvaly-Roșca Ferenc

**Data,
02.01.2020.**

Semnătura,



