

LISTA LUCRĂRILOR ȘTIINȚIFICE SUB AFILIEREA

Universității „Aurel Vlaicu” din Arad

Șef de lucrări Dr. Ing. Gerőcs Attila

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A. Teza de doctorat:	
	GERŐCS Attila , <i>CONTRIBUȚII LA INVESTIGAREA DISPOZITIVELOR DE TRANSFORMARE A MIȘCĂRII DE ROTAȚIE ÎN MIȘCARE LINIARĂ UNIDIRECȚIONALĂ</i> , Universitatea Babeș-Bolyai, conducători științifici: ș.l. dr. ing. abil. Zoltan-Iosif KORKA și prof. univ. dr. ing. abil. István BÍRÓ (Universitatea din Szeged), susținută public în 23.09.2020
B. Lucrări științifice publicate în reviste cotate ISI/WOS:	
B1	[2026] Tiberiu-Daniel Pau, Cristina Nine (Anton), Zoltan-Iosif Korka, Dorian Nedelcu, Attila Gerocs and Elena Wisznovszky, Quantifying the Windage Power Losses of a Helical Gear Through Integrated Experimental, Analytical and Numerical Approaches, <i>Machines</i> 2026 , 14(4), 459; https://doi.org/10.3390/machines14040459 (registering DOI), This article belongs to the Section <i>Machine Design and Theory</i> , FI=2.6 , https://www.mdpi.com/2075-1702/14/4/459 , https://www.webofscience.com/wos/woscc/full-record/WOS:001750066400001
B2	[2025] Muncut (Wisznovszky), Elena; Gerocs, Attila ; Erdodi, Geza; Culda, Lavinia ; Komjaty, Andrei, USING A VOLUME OF MERCURY [Hg] IN AN INERTIAL SYSTEM FOR TRANSFORMING ROTATIONAL MOTION INTO UNIDIRECTIONAL LINEAR MOTION, <i>INGINERIA AUTOMOBILULUI</i> , 2025-04-11, FI=0.2 https://www.webofscience.com/wos/woscc/full-record/WOS:001460116200005
B3	[2024] Timofte, S; Korka, ZI ; Gerocs, A; Komjaty, A; Bulzan, F, Dynamic Computation of an Innovative Device for Reducing Reaction Torque, <i>Computation (Computation)</i> , Volume 12, Issue 11, FI=1,9 , Q2, 2024-12-03, DOI 10.3390/computation12110219, https://www.webofscience.com/wos/woscc/full-record/WOS:001364149100001
B4	[2024] Lavinia Culda, Elena Stela Muncut Wisznovszky și Attila Gerőcs, SIMULATION OF FEEDING OF MACHINE TOOLS USING ROBOT ARMS, <i>Acta Technica Napocensis. Series: Applied Mathematics, Mechanics and Engineering</i> , Vol 67, No 3, Page 411-418, SI (NOV 2024), ISBN 1221-5872. FI=0.2 , https://www.webofscience.com/wos/alldb/full-record/WOS:001340317100005
B5	[2024] Elena Stela WISZNOVSZKY, Attila GEROCS, Lavinia Ioana CULDA, Andrei KOMJATY, Geza-Mihai ERDODI, Aurel Mihail TITU ,CHAIN TRANSMISSION MECHANISM USED TO REDUCE THE REACTION MOMENT FOR MACHINERY THAT PERFORMS ROTATIONAL MOVEMENT AROUND ITS OWN, <i>Acta Technica Napocensis. Series: Applied Mathematics, Mechanics and Engineering</i> , Vol 67, No. 4 Page, 2024, ISBN 1221-5872, FI=0,2 https://www.webofscience.com/wos/woscc/full-record/WOS:001398967500010

B6	[2023] Andrei KOMJATY, Attila GERŐCS, Elena WISZNOVSZKY, Lavinia CULDA, SYSTEM FOR TRANSFORMING ROTATIONAL MOTION INTO UNIDIRECTIONAL LINEAR MOTION ITH THE HELP OF WEIGHTS MOUNTED ON RADIALY SLIDING RODS, FOR AUTOMOTIVE, Ingineria automobilului Nr. 68 / septembrie 2023, ISSN 1842 – 4074, pag 16- 19, FI=0.3 , https://www.webofscience.com/wos/alldb/full-record/WOS:001101879400004
B7	[2023] Timofte, S ; Miclosina, CO ; Cojocaru, V ; Gerocs, A ; Korka, ZI , Inertial Propulsion of a Mobile Platform Driven by Two Eccentric Bodies, APPLIED SCIENCES-BASEL, Volume 13, Issue 17, FI=2.9 , Article Number 9511, WOS:001063642600001, DOI 10.3390/app13179511, Published SEP 2023, eISSN 2076-3417, IDS Number R3UU0 https://www.webofscience.com/wos/woscc/full-record/WOS:001063642600001
B8	[2023] Gerőcs, A ; Muncut (Wisznovszky), Elena); Komjaty, A ; Lile, R; Bíró, I, Kinematic and Dynamic Study of an Inertial System Transforming Rotational Motion into Unidirectional Linear Motion, TEHNICKI VJESNIK-TECHNICAL GAZETTE, FI= 1 , Volume 30, Issue 3, Page 980-987, DOI10.17559/TV-20220915105456, Published APR 2023, WOS:000975513400036, ISSN 1330-3651, eISSN 1848-6339, IDS Number E4UR1 https://www.webofscience.com/wos/woscc/full-record/WOS:000975513400036
B9	[2020] Gerőcs A. , Gillich G.R., Nedelcu D., Korka Z.I., <i>A Multibody Inertial Propulsion Drive with Symmetrically Placed Balls Rotating on Eccentric Trajectories</i> , Symmetry (FI= 2,645), 2020, 12, 1422 (WOS: 000587588000001) https://www.webofscience.com/wos/woscc/full-record/WOS:000587588000001
B10	[2020] Gerőcs A. , Korka Z.I., Biro I., Nedelcu D., <i>The Kinematic and Dynamic Study of an Inertial Propulsion System Based on Rotating Masses</i> , Acta Polytechnica Hungarica (FI=1,8) vol. 17 (6), 2020, pp. 225-237 (WOS: 000550576000013) https://www.webofscience.com/wos/woscc/full-record/WOS:000550576000013
B11	[2020] Gerocs, A ; Korka, ZI; Biro, I ; Cojocaru, V, Analytical investigation of an inertial propulsion system using rotating masses , INTERNATIONAL CONFERENCE ON APPLIED SCIENCES, Volume 1426, DOI 10.1088/1742-6596/1426/1/012031, Journal of Physics Conference Series https://www.webofscience.com/wos/woscc/full-record/WOS:000649150700031
B12	[2020]Nedelcu, D; Gillich, GR ; Gerocs, A ; Padurean, I, A comparative study between photogrammetry and laser technology applied on model turbine blades, INTERNATIONAL CONFERENCE ON APPLIED SCIENCES, Volume 1426, DOI 10.1088/1742-6596/1426/1/012026, Journal of Physics Conference Series. https://www.webofscience.com/wos/woscc/full-record/WOS:000649150700026

C. Lucrări prezentate în cadrul unor conferințe de profil fiind publicate în proceedings-uri indexate SCOPUS:

C1	Gerőcs Attila , Wisznovszky (Muncut) Elena Stela , Dan Ovidiu Glavan, Komjaty Andrei, Muller Valentin, Erdodi Geza-Mihai, Lavinia Culda, Mathematical and graphical modelling of an inertial system that uses the force of inertia of a liquid, mechanical engineering technology , International Engineering Conference, ANNUAL SESSION OF SCIENTIFIC PAPERS "IMT Oradea 2022", Data publicării 2022/10/1, Volumul 1256, Numărul 1, Pagini 012005, doi:10.1088/1757-899X/1256/1/012005
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C2	Gerőcs, A., Korka, Z., Cojocaru, V., Miclosina, C.-O., <i>Modal Analysis of a Gearbox Housing in Order to Avoid Resonance Frequencies</i> , Prodedings of the 15th Conference on Acoustics and Vibration of Mechanical Structures, AVMS 2019; Timișoara; Romania; 30 May 2019, publicată în: Springer Proceedings in Physics, Vol. 251, 2021, pag. 343-350
C3	Gerőcs, A., Korka, Z.I., Nedelcu, D., Gillich, G.R., <i>Development of an inertial propulsion drive by using motion simulation</i> , Proceedings of the 9th International Conference on Advanced Concepts in Mechanical Engineering, ACME 2020; "Gheorghe Asachi" Technical University of Iasi, Romania; 4-5 June 2020, publicată în: IOP Conference Series: Materials Science and Engineering, 997(1),012043.
C4	Gerőcs, A., Korka, Z.I., Bloju, A.V., Sfetcu, C.R., <i>Appraisal of gear pitting severity by vibration signal analysis</i> , Proceedings of the 9th International Conference on Advanced Concepts in Mechanical Engineering, ACME 2020; "Gheorghe Asachi" Technical University of Iasi, Romania; 4-5 June 2020, publicată în: IOP Conference Series: Materials Science and Engineering, 997(1),012042.
C5	Gerőcs A., Korka Z.I., Biro I., Cojocaru V., <i>Analytical investigation of an Inertial Propulsion System Using Rotating Masses</i> , Proceedings of the International Conference on Applied Sciences ICAS2019, Hunedoara, Romania, Mai 9-11, 2019, publicată în: Journal of Physics: Conference Series 1426 (012031)
C6	Nedelcu D., Gillich G.R., Gerőcs A., Padurean I., <i>A comparative study between photogrammetry and laser technology applied on model turbine blades</i> , Proceedings of the International Conference on Applied Sciences ICAS2019, Hunedoara, Romania, Mai 9-11, 2019, publicată în: Journal of Physics: Conference Series 1426 (012026)

D. Lucrări publicate în reviste indexate BDI

D1	[2025] Attila Gerocs , Andras Komjaty, Wisznovszky (Muncut) Elena, Erdodi Geza Mihai, Culda (Săbăilă) Lavinia Ioana, Analytical investigation of inertial drive and its application possibilities in vehicle propulsion , Jelenkori társadalmi és gazdasági folyamatok, Vol. 20, No. 4 (2025) Technical and energy innovations, https://ojs.bibl.u-szeged.hu/index.php/jelenkori_tars-gazd_folyamatok/article/view/46420
D2	[2025] Gerőcs Attila , KomjátýAndrás, Wisznovszky (Muncuť) Elena Stela, Jelenkori társadalmi és gazdasági folyamatok , (2025) XX. évfolyam, 3. szám, pp. 75–84.ISSN 1788-7593 (Nyomtatott) DOI: https://doi.org/10.14232/jtgf.2025.3.75-84 ISSN 2676-9867 (Online), REAKCIÓNYOMATÉK CSÖKKENTŐ RENDSZER https://ojs.bibl.u-szeged.hu/index.php/jelenkori_tars-gazd_folyamatok/article/view/46418/45587
D3	[2023] Attila Gerőcs , Elena Stela Wisznovszky, Andrei Komjaty, Inertia system (inertia system) for converting back-and-forth motion on a semicircular track into unidirectional linear motion (Tehetlenségi rendszer (inerciarendszer) a félkör pályán történő oda-vissza mozgás egyirányú lineáris mozgássá való alakításához) , , Journal of the Institute of Engineering Management and Economics of the Faculty of Engineering of the University of Szeged, ISSN 1788-7593 / Print, ISSN 2676-9867 / Online, jun 21, 2023, DOI: https://doi.org/10.14232/jtgf.2023.kulonszam.173-182
D4	[2022]Stelica Timofte, Zoltan Korka, Attila Gerocs, Elena Stela Muncut and Camelia Rodica Sfetcu, Kinematic and dynamic investigation of a novel inertial propulsion drive ,

	Published August 2022, <i>Analecta Technica Szegedinensia</i> Vol. 16 No. 1(2022): pp. 27-32, Project: Inertial drives, DOI: 10.14232/analecta.2022.1.27-33, https://www.researchgate.net/publication/362519626_KINEMATIC_AND_DYNAMIC_INVESTIGATION_OF_A_NOVEL_INERTIAL_PROPULSION_DRIVE
D5	[2019]Gerócs A., Korka Z.I., Gillich G.R., <i>Analytical investigations on the influence of the geometry of an inertial drive on the propulsion force</i> , <i>Analele Universității „Eftimie Murgu” din Reșița, Fascicula Inginerie</i> , 2019, vol. 26(1), pag. 76-85 (lucrare indexată DOAJ)
D6	[2019]Nedelcu D., Gillich G.R., Biro I., Korka Z.I., Gerócs A., <i>The study of the punching cards mechanism with SolidWorks Motion</i> , <i>Analele Universității „Eftimie Murgu” din Reșița, Fascicula Inginerie</i> , 2019, vol. 26(1), pag. 181-190 (lucrare indexată DOAJ)
E. Cereri de brevete de invenție depuse la OSIM:	
E1	Gerócs, A. , Korka, Z.I., <i>Transmisie mecanică pentru eliminarea momentului de reacție</i> , Cerere brevet de invenție OSIM nr. A/00272/ 08.05.2017
E2	Gerócs, A. , Korka, Z.I., <i>Sistem inerțial de antrenare</i> , Cerere brevet de invenție OSIM nr. A/00091/ 17.04.2018
E3	Gerócs, A. , Korka, Z.I., <i>Transmisie mecanică amplificatoare de putere cu ajutorul unui sistem de eliminare a momentului de reacție</i> , Cerere brevet de invenție OSIM nr. A/00023/ 18.01.2019
E4	Gerócs, A. , Glăvan Dan- Ovidiu, Müller Valentin- Dan, <i>Sistem inerțial de transformare a mișcării de rotație în mișcare liniară unidirecțională</i> , Cerere brevet de invenție OSIM nr. A/00609/ 01.10.2021
E5	Gerócs, A. , Glăvan Dan- Ovidiu, Müller Valentin- Dan, <i>Sistem inerțial de transformare a mișcării de rotație în mișcare liniară unidirecțională utilizând forța de inerție a unui lichid</i> , Cerere brevet de invenție OSIM nr. A/00700/ 19.11.2021
E6	[2025] Patent 1. <u>GEROCS A; KOMJATY A; WISZNOVSZKY E S; BIRO I; LILE R</u> , Module subassembly for preventing cylinder ovalization in internal combustion engines of ships, submarines and diesel locomotives, in which kinematic linkage is carried out by reciprocating rods mounted with one end on cranked semi-shafts and with other ends on common piston, Nr. RO138312-A2 https://www.webofscience.com/wos/aiidw/full-record/DIIDW:2025714628
E7	[2025] Patent 2. <u>GEROCS A; KOMJATY A; WISZNOVSZKY E S</u> , Inertial system for converting rotation motion into unidirectional linear motion by using a volume of mercury, has cam whose profile is set according to relationships set in documentation by rotating entire cylinder assembly and vessel, NR. Brevet 138214(A2) https://www.webofscience.com/wos/alldb/full-record/DIIDW:202569704V
E8	[2025] Patent 3. <u>GEROCS A; LILE R; KOMJATY A; WISZNOVSZKY E S</u> System for removing reaction moment by lever and gear with cylindrical gears, has cylindrical gear wheel with internal teeth that is designed in such way that hollow cylinder is made whose active portion comes into contact with roller mounted on one end of lever on opposite side of teeth, nr. Brevet 137976 https://www.webofscience.com/wos/alldb/full-record/DIIDW:202566949R

E9	[2025] Patent 4. <u>GEROCS A; LILE R; WISZNOVSZKY E S</u> , Inertial system for converting rotary motion into unidirectional linear motion using weights for e.g. motor vehicle, has chain wheel mounted on axle, and chain portion provided with disk-shaped weights that are mounted at bolts, nr. Brevet 137467 https://www.webofscience.com/wos/alldb/full-record/DIIDW:202359086K
E1. Cereri de brevete de invenție eliberate de la OSIM	
Brevet de invenție, nr. 134352, Titular: Geocs Attila, Arad, AR, RO; KORKA ZOLTAN IOSIF, Reșița, CS, RO, Titlul invenției: Transmisie mecanică pentru reducerea momentului de reacție, București, Data eliberării 29/09/2023.	
F. Cărți publicate:	
F1	Gerócs, A. , <i>Mic tratat despre sisteme neconvenționale de propulsie</i> , Editura UAV Arad 2021,ISBN ISBN 978-973-752-850-6
F2	Culda Lavinia Ioana, Wisznovszky (Muncut) Elena Stela, Gerócs Attila , Noțiuni introductive în roboți industriali, Editura Gutenberg Univers, 2023 , ISBN 978-606-675-365-4, nr. pagini 322.
F3	Wisznovszky, Elena Stela, Komjaty, Andrei, Erdodi, Geza-Mihai, Gerocs, Attila , Laborator de Acționari hidraulice și pneumatice realizat cu ajutorul softurilor de specialitate : pentru uzul studenților de la specializările, Autovehicule rutiere, Ingineria sudării, Tehnologia construcțiilor de mașini – Arad, Gutenberg Univers, 2026 , ISBN 978-606-675-451-4, pagini 116.

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