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Lista lucrărilor științifice

A. Lista lucrărilor relevante incluse în format electronic:

1. **Rusu, C.**, Tatar, M.O - *Adapting Mechanisms for In-pipe Inspection Robots: A review*, Applied Sciences, 12, 2022, ISSN 2076-3417 [**IF 2.838**]
2. S. Noveanu, I.A Ivan, D.C. Noveanu, **C. Rusu**, D. Lates - *SiMFlex Micromanipulation Cell with Modular Structure*, Applied Sciences 10, 2020, ISSN 2076-3417 [**IF 2.679**]
3. **C. Rusu**, S Besoiu, MO Tatar - *Design and closed-loop control of a piezoelectric actuator*, IOP Conference Series: Materials Science and Engineering, vol 1018, 2021, doi.org/10.1088/1757-899X/1018/1/012002.
4. **Rusu, C.**, Besoiu, S. - *Analysis of the displacement amplification ratio for a piezoelectric driven compliant mechanism*, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering, Vol 64, nr I, pag 87-92, 2021, ISSN 1221-5872
5. S. Noveanu, **C. Rusu**, C. Rancea, D. Lates - *Research Concerning the End-effectors for SiMFlex Microgripper*, IOP Conference Series: Materials Science and Engineering, Vol 724, nr 1, 2020, doi:10.1088/1757-899X/724/1/012055
6. S. Noveanu, D.Lates, L.Fusariu, **C. Rusu** - *A New Compliant Microgripper and Study for Flexure Hinges Shapes*, Proceedings of the 13th International Conference INTER-ENG 2019 in Procedia Manufacturing, vol 46, 2019, ISSN 2351-9789
7. **C. Rusu**, S, Besoiu, K Vidrean, C Lapusan - *New approaches in online evaluation of photovoltaic systems efficiency by implementing IoT monitoring solutions*, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering, Vol 62 nr IV, pag12-18, 2019, ISSN 1221-5872
8. **C. Rusu**, T.L. Tiuca, S. Noveanu, D. Mândru - *A KBE tool for solving the mechanisms kinematics*, The 7th International Conference on Advanced Concepts on Mechanical Engineering ACME2016, IOP Conference Series: Materials Science and Engineering, Vol 147, pp 652-656, ISSN 1757-8981
9. Maties, V., Bălan, R., **Rusu, C.**, Hancu, O., Lapusan, C., Besoiu, S. – *Laborator portabil pentru educație mecatronică* RO123627-B1, Derwent Primary Accession Number: 2015-10392L, 2015


B. Teza de doctorat:

„Contributii privind studiul mecanismelor pentru mecatronică” conducător științific : Prof.dr.ing. Vistrian Mătieș, Universitatea Tehnică din Cluj Napoca, Susținere publică: Octombrie 2005

C. Brevete de invenție:

Maties, V., Bălan, R., **Rusu, C.**, Hancu, O., Lapusan, C., Besoiu, S. – *Laborator portabil pentru educație mecatronică*, RO123627-B1, Derwent Primary Accession Number: 2015-10392L, 2015

D. Cărți si capitole în cărți:
Cărți:

1. Rusu C. - *Mecanisme*, Editura UTPress, Cluj Napoca, 2021, ISBN 978-606-737-501-5
2. Rusu C. - *Mecanisme II. Suport de curs*, Editura UTPress, Cluj Napoca, 2022, ISBN 978-606-737-578-7
3. Csibi, V., Popa, M., Mândru, D., Teușan, E., Preja, D., Stan, S., **Rusu, C.**, Barbu, D., *Mașini, Instalații și Tehnologii în Mecanica Fină și Mecatronică – Aplicații*, Editura Alma Mater, Cluj– Napoca, 2003 ISBN 973-8397-35-9.
4. Mătieș, V., Miroiu, S.C., Mândru, D., Bălan, R., Tătar, M.O., **Rusu, C.**- *Tehnologie și educație mecatronică. Auxiliar curricular*, Editura Economică, București, 2002, ISBN 973-8318-16-5.
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Capitole în cărți:

1. Mătieș V., **Rusu C.**, Tămaș, V., 2020 – *National Mechatronic Platform – The Foundation of a Smart and Sustainable Society Development*, în: Ion Visa, Anca Duta (eds), *Solar Energy Conversion in Communities*, Springer International Publishing, ISBN 978-3-030-55756-0.
2. Mătieș V., **Rusu C.**, Noveanu, S., 2016 – *Mecatronics Technology of the XXI century*, în volumul: Platforma națională de mecatronică, Coordonator: Prof.dr.ing. Maties Vistrian, Editura UTPress, Cluj Napoca ISBN 978-606-737-148-2.
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E. Articole publicate în reviste din fluxul științific internațional principal:

1. **Rusu C**, Tatar M.O - *Adapting Mechanisms for In-pipe Inspection Robots: A review*, Applied Sciences, 12, 2022, ISSN 2076-3417 [IF 2.838]



2. **Rusu C**, Besoiu S, - *Analysis of the displacement amplification ratio for a piezoelectric driven compliant mechanism*, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering, Vol 64, nr I, pag 87-92, 2021, ISSN 1221-5872
3. Lapusan C, **Rusu C**, Noveanu S - *Development of a nonlinear model for a high precision piezoelectric positioning system with applications in model-based design*, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering, Vol 64, nr I, pag 35-38, 2021, ISSN 1221-5872.
4. S. Noveanu, I.A. Ivan, D.C. Noveanu, **C. Rusu**, D. Lates - *SiMFlex Micromanipulation Cell with Modular Structure*, Applied Sciences 10, 2020, ISSN 2076-3417 [**IF 2.679**]
5. **Rusu C**, Tatar MO, - *Design of an inspection robot based on the pantograph mechanism*, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering, Vol 63, nr III, pag 265-268, 2020, ISSN 1221-5872
6. **C. Rusu**, S. Besoiu, K. Vidrean, C. Lapusan - *New approaches in online evaluation of photovoltaic systems efficiency by implementing IoT monitoring solutions*, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering, Vol 62 nr IV, pag12-18, 2019, ISSN 1221-5872
7. S. Noveanu, C. Lăpușan, **C. Rusu**, C. Rad - *Flexmentoring cooperation model proposed in HEIBUS project*, Review of Management & Economic Engineering. 2019, Vol. 18 Nr 4, p643-649, ISSN: 1583-624X
8. Tiuca, T., **Rusu C.**, Noveanu, S., Besoiu, S., Mandru, D - *The Simulation and the interface of the mechanisms used in Microfactories*, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering, Vol 59, pag 609-612, 2015, ISSN 1221-5872
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10. Draghici M., **Rusu, C.**, Plesa A, Besoiu, S - *Modelling and control of a gantry crane system*, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics and Engineering, 2013, Vol57, pag, 537-540, ISSN 1221-5872.
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F. Publicații in extenso, apărute în lucrări ale principalelor conferințe internaționale de specialitate:

1. D G Buleandra, **C Rusu**, A O Baneasa , R C Donca - *Kinematics and design of a 12-DOF quadrupedal robot* In: Doroftei, I., Nitulescu, M., Pisla, D., Lovasz, EC. (eds) Proceedings of SYROM 2022 & ROBOTICS 2022. IISSMM 2022. Mechanisms and Machine Science, vol 127. Springer, Cham. https://doi.org/10.1007/978-3-031-25655-4_36



2. Pecie, R, Tatar, M.O, **Rusu, C** - *Studies on Mobile Robots for all Types of Terrain*, Proceedings of 10th International Conference on Manufacturing Science and Education, June 2 - 4, 2021, Sibiu, Romania, <https://doi.org/10.1051/mateconf/202134308015>.
3. Gyarmati M, Tatar MO, **Rusu C** - *Design and Development of a Search and Rescue Robot with TriSTAR locomotion units*, Proceedings of the International Conference MTM&Robotics 2020 In: Lovasz, EC., Maniu, I., Doroftei, I., Ivanescu, M., Gruescu, CM. (eds) *New Advances in Mechanisms, Mechanical Transmissions and Robotics. Mechanisms and Machine Science*, Springer, Cham., ISSN 2211-0984, https://doi.org/10.1007/978-3-030-60076-1_16.
4. **C. Rusu**, S. Besoiu, M.O. Tatar - *Design and closed-loop control of a piezoelectric actuator*, Proceedings of the 11th International Conference on Advanced Manufacturing Technologies, ICAMaT 2020, Bucharest, October 29- 30, 2020, In: IOP Conference Series: Materials Science and Engineering, ISSN 1757-8981 <https://doi.org/10.1088/1757-899X/1018/1/012002>.
5. S. Noveanu, **C. Rusu**, C. Rancea, D. Lateș - *Research Concerning the End-effectors for SiMFlex Microgripper*, Proceedings of International Conference on Tribology (ROTRIB'19) 19–21 September 2019, Cluj-Napoca, Romania, In: IOP Conference Series: Materials Science and Engineering, ISSN: 1757-8981, doi:10.1088/1757-899X/724/1/012055
6. S. Noveanu, D.Lates, L.Fusariu, **C. Rusu** - *A New Compliant Microgripper and Study for Flexure Hinges Shapes*, Proceedings of the 13th International Conference INTER-ENG 2019 in Procedia Manufacturing, vol 46, 2019, ISSN 2351-9789
7. **C. Rusu**, T.L. Tiuca, S. Noveanu, D. Mândru - *A KBE tool for solving the mechanisms kinematics*, The 7th International Conference on Advanced Concepts on Mechanical Engineering ACME2016, IOP Conference Series: Materials Science and Engineering, Vol 147, pp 652-656, ISSN 1757-8981
8. T.L. Tiuca, **C. Rusu**, S. Noveanu, D. Mândru - *General KBE model with inheritance and multi-CAD support*, The 7th International Conference on Advanced Concepts on Mechanical Engineering ACME2016, IOP Conference Series: Materials Science and Engineering, Vol 147, pp 536-543, ISSN 1757-8981
10. Lapusan C., **Rusu C.**, Brai, L., Mandru, D - *Development of a multifunctional robotic arm for in-pipe robots*, Proceeding of the 7th IEEE International Conference: Electronics, Computers and Artificial Intelligence (ECAI), 2015, ISSN: 2378-7147
11. Noveanu, S., **Rusu, C.**, Mândru, D. - *Design and Simulation the Manipulator SI2M Used in Microfactories*, Proceedings of the 6th International Conference on Robotics 2014, in Applied Mechanics and Materials, vol.762, pag. 27-32, 2015 doi.org/10.4028/www.scientific.net/amm.762.27
12. Draghici M., **Rusu C.**, Plesa A., Balan R., Besoiu S - *Control Method Comparison for Pneumatic Artificial Muscle Actuators*, The 11th IFToMM International Symposium on Science of Mechanisms and Machines. Mechanisms and Machine Science, Springer, Vol.18, pag 351-359, 2014, doi.org/10.1007/978-3-319-01845-4_35



13. M.P. Draghici, **C. Rusu**, S. Besoiu, R. Balan - *Model predictive control for pneumatic artificial muscles*, XVI International Scientific Conference on Industrial Systems, CSI, 2014, Vol14, pag. 91-95, ISBN 978-86-7892-652-5
14. Vasiu, R., **Rusu, C.**, Csiszar, A., Brisan, C., Verl A., - *Conceptual design of a reconfigurable parallel robot*, 2013 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Wollongong, Australia, Vol 1., pag. 1193 -1198, ISBN 978-1-4673-5319-9, DOI 10.1109/AIM.2013.6584256.
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G. Alte lucrări și contribuții științifice

1. Tiuca T., **Rusu C.**, Noveanu S., Besoiu S., Csibi V., - *The Design and Optimization of a Compliant Gripper used KBE Tools*, Proceedings of the 23th International Conference in Mechanical Engineering, OGET, 2015, ISSN 2068-1267
2. Ioan Adrian Cosma, Vistriean Maties, **Călin Rusu**, Rares Ciprian Mindru - *Mechatronic Platforms for Studying Driving Systems Based on Lorentz Actuators*, The 3rd International Conference on Computational Mechanics and Virtual Engineering COMEC 2009, 29 – 30 October 2009, Brasov, Romania, pag 178-181.
3. Sorin Besoiu, Vistriean Mătieș, **Călin Rusu** - *Considerații privind schemele structurale ale sistemelor mecatronice de acționare cu mușchi artificiali*, Conferința Națională de Educație Tehnologică și Tehnologii Educaționale CNETTE 2009, Cluj-Napoca, pag 413-418, ISSN 2066-446X
4. S. Besoiu, V. Maties, **C. Rusu** - *Considerations Regarding Actuators Based on Artificial Muscles*, Proceedings on the 2nd International Conference “Advanced Composite Materials Engineering” - COMAT 2008, Brasov, Romania, Vol 1, pag 409-414, ISSN 1844-9336.
5. S. Besoiu, V. Mătieș, **C. Rusu**, F. Popa - *Design Elements of Grippers with Actuators Based on Pneumatic Artificial Muscles*, Proceedings of the 4th International Conference on Robotics - ROBOTICA '08
6. **Rusu, C.**, Brisan, C – *Consideration concerning training of the human muscles using robotic methods*, The Annual Symposium of the Institute of Solid Mechanics, SISOM 2006, Bucharest, Romania
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8. **Călin Rusu**, Dan Mandru, Sorin Besoiu - *A Two DOF Robotic Exerciser Mecatronica*, 2006 Vol 2, pag. 56-59, ISSN 1583-7653.
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15. **Rusu, C.**, Bara M. Ardelean, I., - *Aspecte privind sinteza geometrico-pozitionala a mecanismelor pentalater*, Conferinta Stiintifica cu participare internationala, 8-9 Mai 2003, Baia Mare, Scientific Bulletin Series C (supliment) Vol XVII (2003) pp.253-256, ISSN 1224-3264.
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17. Olimpiu Tătar, Dan Mândru, **Călin Rusu**, Rareș Crișan - *Minirobot mobil prin țevi*, Simpozionul național cu participare internațională PRASIC'02, 7-8 Noiembrie 2002, Brasov, Romania, Vol. I Mecanisme și Tribologie, Vol. I, pag. 216-220, ISBN 973 – 635 – 064 – 9.
18. Dan Mândru, Olimpiu Tătar, **Călin Rusu**, Rareș Crișan - *Contribuții privind proiectarea dispozitivelor de prindere miniaturizate (minigripere)*, Simpozionul național cu participare internațională PRASIC'02, 7-8 Noiembrie 2002, Brasov, Romania, Vol. I Mecanisme și Tribologie, pag 145-150, ISBN 973-635-064-9
19. Dan Barbu, **Călin Rusu**, Olimpiu Hancu - *Analiza structurală și cinematică a mecanismelor cu oscilații și curse reglabile*, Simpozionul național cu participare internațională PRASIC'02, 7-8 Noiembrie 2002, Brasov, Romania, Vol. I Mecanisme și Tribologie, ISBN 973-635-064-9.
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