

Claudiu SCHONSTEIN

Lecturer

Technical University of Cluj-Napoca

Faculty of Industrial Engineering, Robotics and Production Management

Mechanical Engineering Systems Department

L I S T

of scientific papers in the field of subjects in the curriculum

A. Phd Thesis

“CONTRIBUȚII ÎN DEZVOLTAREA UNEI STRUCTURI ROBOTIZATE HIBRIDE”, scientific coordinator: **Prof. dr. ing. Iuliu NEGREAN**, date of public presentation: **2-nd of september 2011**

B. Books and chapters in books

1. **C. Schonstein**, *Implementarea structurilor mecanice hibride în procese de lucru*, Cluj Napoca, Ed. Mega, ISBN 978-606-020-619-4, 2023.
2. **C. Schonstein**, G. Fodor, *Mecanica Teoretica. Statică și Cinematică*, Cluj Napoca, ed. UTPress, ISBN 978-606-737-606-7, 2022.
3. I. Negrean, K. Kacso, C. Schonstein, A. Duca, *Mechanics — Theory and Applications*, Cluj-Napoca, Ed. UTPress, ISBN 978-973-662-523-7, 2015.
4. I. Negrean, K. Kacso, C. Schonstein, A. Duca, *Mecanică. Teorie și aplicații*, Cluj-Napoca, Ed. UTPress, ISBN 978-606-737-061-4, 2012.

C. ISI/BDI indexed papers published

1. B. Mocan, **C. Schonstein**, M. Murar, C. Neamtu, M. Fulea, M. Mocan, S. Dragan, H. Feier, Upper-Limb Robotic Exoskeleton for Early Cardiac Rehabilitation Following an Open-Heart Surgery-Mathematical Modelling and Empirical Validation, MDPI Mathematics (Q1), Mathematical Analysis of Robotics and Mechanisms, Mathematics 2023, ISSN: 2227-7390, 11/7, 2023, <https://doi.org/10.3390/math11071598>
2. A. Pusca, G. Rus, I. Birlescu, C. Vaida, A. Pislă, **C. Schonstein**, B. Gherman, P. Tucan, D. Pislă, Workspace Analysis Of Two Innovative Parallel Robots For Single Incision Laparoscopic Surgery, Acta Technica Napocensis Series-Applied Mathematics Mechanics and Engineering, ISSN 1221-5872, 65/2S, 407-414, 2022, <https://www.webofscience.com/wos/woscc/full-record/WOS:000911249300019>
3. B. Mocan, **C. Schonstein**, C. Neamtu, M. Murar, M. Fulea, R. Comes, M. Mocan, CardioVR-ReTone-Robotic Exoskeleton for Upper Limb Rehabilitation following Open Heart Surgery: Design, Modelling, and Control, MDPI Symmetry (Q2) 2022; ISSN: 2073-8994, 14/1, <https://www.webofscience.com/wos/woscc/full-record/WOS:000758479200001>
4. **C. Schonstein**, C.I. Rusan, Consideratins Regarding The steering and linear drive mechanism with double differential for tracks machines, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 65/1, 79-84, 2022
<https://www.webofscience.com/wos/woscc/full-record/WOS:000832312500011>

5. **C. Schonstein**, C.A. Dobocan, Dynamic Control Functions for a translational axis of a Serial Robot Structure, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 64/3, 429-434, 2021
<https://www.webofscience.com/wos/woscc/full-record/WOS:000729656100011>
6. C.A. Dobocan, **C Schonstein** C Covasa, The designation of a photovoltaic panel system connected to an irrigation system, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 64/3, 423-428, 2021
<https://www.webofscience.com/wos/woscc/full-record/WOS:000729656100010>
7. M. Steopan, **C. Schonstein**, A.V, Bogdan, Mobile Robotic Platform For Firefighting–Concept Development, Finssing And Mockup Buildup, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 63/3, 269-274, 2020
<https://www.webofscience.com/wos/woscc/full-record/WOS:000580963100007>
8. **C. Schonstein**, M. Steopan, AV. Bogdan, Geometrical and Kinematical Control Functions for a mobile robot used in extinguishing fires, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 63/3, 275-280, 2020
<https://www.webofscience.com/wos/woscc/full-record/WOS:000580963100008>
9. **C. Schonstein**, Considerations About Matrix Exponentials in Geometrical Modeling of the Robots, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 62/2, 337-342, 2019
<https://www.webofscience.com/wos/woscc/full-record/WOS:000483186000016>
10. **C. Schonstein**, Kinematic control functions for a serial robot structure based on the time derivative Jacobian matrix, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 61/2, 219-224, 2018
<https://www.webofscience.com/wos/woscc/full-record/WOS:000437045000010>
11. **C. Schonstein**, N. Panc, Establishing the Jacobian matrix for a three degrees of freedom serial structure, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 61/1, 93-98, 2018
<https://www.webofscience.com/wos/woscc/full-record/WOS:000428903500015>
12. N. Panc, **C Schonstein**, Ghe. Vuscan, The Influence of accuracy in establishing the origin of the part on the machining accuracy, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5873, 60/3, 393-398, 2017.
13. **C. Schonstein**, N. Panc, Kinematical modeling for R2T structure used in transfer parts between two workstations, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 61/2, 409-416, 2017
<https://www.webofscience.com/wos/woscc/full-record/WOS:000416962000012>
14. **C. Schonstein**, I. Negrean,N. Panc, Geometrical modeling using matrix exponential functions for a serial robot structure, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 60/3, 403-408, 2017
<https://www.webofscience.com/wos/woscc/full-record/WOS:000416962000011>

15. **C. Schonstein**, I. Negrean, K. Kacso, Using of Polynomial Functions in modeling of the Working Process of Mobile Robot RmITA, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 57/2, 195-200, 2014
16. **C. Schonstein**, I. Negrean, K. Kacso, Contributions to dynamic functions for a mobile robot, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 55/3, 677-682, 2012

D. Papers published in journals and conferences volumes with references

- Journals

1. **C. Schonstein**, C.I. Rusan, Establishing the motion Functions for an Assistive Robot for people with Motor disabilities, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 66/1, 57-62, 2023.
2. **C. Schonstein**, C.I. Rusan, Kinematic Control Functions for a 2T structure integrated on an Assistant Robot, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 66/1, 63-68, 2023
3. I. Negrean, K. Kacso, **C. Schonstein**, et al., New Formulations on Motion Equations in Analytical Dynamics, Trans Tech Publications Switzerland, Journal Applied Mechanics and Materials, ISSN print 1660-9336, ISSN cd 2297-8941, ISSN web 1662-7482, 823, 49-54, 2016
<https://doi.org/10.4028/www.scientific.net/AMM.823.49>
4. I. Negrean, K. Kacso, **C. Schonstein**, et al., New Formulations on Acceleration Energies in Analytical Dynamics, Trans Tech Publications Ltd, Journal Applied Mechanics and Materials, ISSN print 1660-9336, ISSN cd 2297-8941, ISSN web 1662-7482, 823, 43-48, 2016
<https://doi.org/10.4028/www.scientific.net/AMM.823.43>
5. I. Negrean, K. Kacso, **C. Schonstein**, Energies of Accelerations in Advanced Robotics Dynamics, Trans Tech Publications Switzerland Ltd, ISSN Print 1660-9336, 762, 67-73, 2015
<https://doi.org/10.4028/www.scientific.net/AMM.762.67>, /
6. I. Negrean, **C. Schonstein**, A. Duca, Dynamic Model for the Mobile Robot RmITA, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 57/2, 159-164, 2014
7. F. Bugnar, **C. Schonstein**, V. Ispas, Geometric Modeling of a 5R-Type Industrial Robot, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 56/4, 649-652, 2013
<https://www.webofscience.com/wos/woscc/full-record/WOS:000420768200010>
8. Z. Szoke, I. Negrean, K. Kacso, **C. Schonstein**, New concept of a mobile robot used in car inspection, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 56/2, 227-232, 2013
<https://www.webofscience.com/wos/woscc/full-record/WOS:000420752600038>
9. Z. Szoke, I. Negrean, **C. Schonstein**, Kacso, K., Kinematical Control Functions for a Mobile Robot, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 56/2, 223-226, 2013

<https://www.webofscience.com/wos/woscc/full-record/WOS:000420752600037>

10. Z. Szoke, I. Negrean, **C. Schonstein**, K. Kacso, Dynamic Control Function for a Mobile Robot, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 56/2, 431-436, 2013
<https://www.webofscience.com/wos/woscc/full-record/WOS:000420757100022>
11. I. Negrean, **C. Schonstein**, K. Kacso, Formulation on the principles of Analytical Mechanics, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 55/3, 677-682, 2012
<https://www.webofscience.com/wos/woscc/full-record/WOS:000420733000018>
12. I. Negrean, **C. Schonstein**, Z. Szoke, Contributions to the Dynamics of Mobile Robot Patrolbot, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 54/4, 593-598, 2011, <https://www.webofscience.com/wos/woscc/full-record/WOS:000420705400005>
13. I. Negrean, **C. Schonstein**, Advanced Studies on Matrix Exponentials in Robotics, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 53/1, 13-18, 2010
14. I. Negrean, **C. Schonstein**, K. Kacso, A. Duca, Kinematical Control Functions for a 2TR Type Robot, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 53/3, 433-438, 2010.
15. I. Negrean, **C. Schonstein**, S. M. Mura, K. Kacso, New Formulation about the Dynamics of a 2TR-Type Robot Structure, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 53/3, 439-444, 2010

- Papers published in the volumes of conferences indexed ISI Proceedings

1. Claudiu Schonstein; Felicia Aurora Cristea- CONCEPT OF ROBOTIC SYSTEM FOR ASSISTANCE / REHABILITATION OF PERSONS WITH MOTOR DISABILITIES, 13-15 October 2020- International Conference "Advancements of Medicine and Health Care through Technology" – MediTech 2020, available at https://link.springer.com/chapter/10.1007/978-3-030-93564-1_35, published Springer, Cham, DOI https://doi.org/10.1007/978-3-030-93564-1_35
2. A.F. Cristea; **C. Schonstein**, Studies Regarding Vibration Transmitted, Using an Additional Damper, Mounted on the Hand-Arm System, 13-15 October 2020- International Conference "Advancements of Medicine and Health Care through Technology" – MediTech 2020, Springer, print ISBN 978-3-030-93563-4, Online ISBN 978-3-030-93564-1, 88/1, 331-343, 2022.
https://link.springer.com/chapter/10.1007/978-3-030-93564-1_37
3. C. A. Dobocan, C. Chiriac, **C. Schonstein**, R. S. Rozos, An approach of designing a mobile fridge freezer, International Conference QIEM-2021, Acta Technica Napocensis Series-Applied Mathematics Mechanics and Engineering, ISSN 1221-5872, 64/4s, 675-680, 2021
<https://www.webofscience.com/wos/woscc/full-record/WOS:000740057300013>

4. R.Curta, M. Steopan, **C. Schonstein**, F. Ursa, Automating the feeding of a fuse box for the auto industry, International Conference on Production Research - Africa, Europe and the Middle East (ICPRAEM) / 4th International Conference on Quality and Innovation in Engineering and Management (QIEM), Cluj-Napoca, Jul 25-26, 2018, ISSN 1221-5872, 61/4, 671-676, 2018 <https://www.webofscience.com/wos/woscc/full-record/WOS:000453442200020>
5. **C. Schonstein**, M. Steopan, R. Curta, F. Ursa – Geometrical and Kinematical Control Functions for a Cartesian Robot structure, International Conference on Production Research - Africa, Europe and the Middle East (ICPRAEM) / 4th International Conference on Quality and Innovation in Engineering and Management (QIEM), Cluj-Napoca, Jul 25-26, 2018, ISSN 1221-5872, 61/3s, 671-676, 2018, <https://atna-mam.utcluj.ro/index.php/Acta/article/view/1070>
6. **C. Schonstein**, I. Negrean, Dynamic Control Functions For A Ball Screw Transmission Axis, 41st International Conference on Mechanics of Solids, Acoustics and Vibrations "Prof. P.P. Teodorescu", Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 60/4, 613-620, 2017, <https://www.webofscience.com/wos/woscc/full-record/WOS:000428901100025>
7. I. Negrean, **C. Schonstein**, K. Kacso, Study About The Dynamics of a Translational Robot Axis Based on Ball Screw Transmission, International Conference on Automation, Quality and Testing, Robotics, AQTR 2016 IEEE-TTTC THETA 20th, IEEE Catalog Number: CFP16AQT-USB, ISBN: 978-1-4673-8691-3, 2016,
8. I. Negrean, K. Kacso, **C. Schonstein**, Formulations in Advanced Dynamics of Mechanical Systems, The 11th IFToMM International Symposium on Science of Mechanisms and Machines, Springer Cham, Online ISBN 978-3-319-01845-4, Print ISBN, 978-3-319-01844-7, 18, pp185-195, 2014, https://doi.org/10.1007/978-3-319-01845-4_19
9. I.Negrean, K. Kacso, **C Schonstein**, A Duca, New Formulations on Kinematics of Mechanical Systems, 4th International Conference on Advanced Engineering in Mechanical Systems (ADEMS 2013), Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872, 56/4, 583-590, 2013, <https://www.webofscience.com/wos/woscc/full-record/WOS:000420768200001>
10. . K._Kacso, I Negrean, **C. Schonstein**, The modeling of working process of the serial structure Fanuc, 36th International Conference on Mechanics of Solids, Acoustics and Vibrations (ICMSAV XXXVI), Acta Technica Napocensis - Applied Mathematics and Mechanics, ISSN 1221-5872, 55/3, 725-730, 2012
11. I. Negrean, **C Schonstein**, K. Kacso, A. Duca, Matrix Exponentials and Differential Principles in the Dynamics of Robots, The 13-th World Congress in Mechanism and Machine Science, Guanajuato, Mexico, Member Organization Mexico of IFToMM, ISSN 978-1-62993-077-0, 19-25, 2011, <https://www.proceedings.com/content/019/019294webtoc.pdf>
12. I. Negrean, **C. Schonstein**, Z. Szoke, K. Kacso, AV Duca, *Dynamic Modeling of the Hybrid Robots Structures*, Proceedings of 2012 IEEE International Conference on Automation, Quality and Testing, Robotics, Electronic, ISSN: 1844-7872 CD:978-1-4673-0703-1, 2012 <https://www.webofscience.com/wos/woscc/full-record/WOS:000400227100082>

13. I. Negrean, **C Schonstein**, K. Kacso, C. Negrean, A Duca, Formulations about Dynamics of Mobile Robots, The 5-th International Conference, Robotics 2010, Cluj-Napoca, Romania, 23-25 September 2010, Solid State Phenomena, ISSN: 1012-0394, 166-167, 309-314, 2010
<https://www.webofscience.com/wos/woscc/full-record/WOS:000289532000049>
14. Negrean, I., **Schonstein, C.**, Szoke, Z., Kacso, K., The *Dynamics of working process for the Rm4r2TR hybrid structure*, The 4rd International Conference on "Computational Mechanics and Virtual Engineering" COMEC 2011, 20 – 22 October 2011, Braşov, Romania, ISBN 978-973-598-572-1.
15. I. Negrean, I. Vuşcan, C. **Schonstein**, K. Kacso, A. Duca, C. Negrean, Dynamics of Hybrid Robot Structures Using Variational Principles, The 5-th International Conference, Robotics 2010, Cluj-Napoca, Romania, 23-25 September 2010, Solid State Phenomena, ISSN: 1012-0394, 166-167, 303-308, 2010
<https://www.webofscience.com/wos/woscc/full-record/WOS:000289532000048>
16. I. Negrean, C. **Schonstein**, D.C. Negrean, A.S. Negrean, A Duca, Formulations in Robotics based on Variational Principles, Proceedings of AQTR 2010 IEEE-TTTC (THETA 17), International Conference on Automation, Quality and Testing, Robotics, IEEE Catalog number: CFP10AQ-T-PRT, ISSN 1844-7872, 1, 281-286, 2010.
<https://www.webofscience.com/wos/woscc/full-record/WOS:000419281500016>
17. Negrean, I., Duca, A., Kacso, K., Mura-Cozma, S. M., **Schonstein, C.**, *New Formulations on Serial Robots Dynamics*, The 3rd International Conference on International Conference "Computational Mechanics and Virtual Engineering" COMEC 2009, 29 – 30 October 2009, Braşov, Romania, ISBN 978-973-598-572-1, pp. 870-875.
18. **Schonstein, C.**, Negrean, I., Kacso, K., Duca, A.V. "Kinematical Modeling of a Robot Hybrid Structure" / Proceedings of the 9th International Conference MTeM, pp. 265-268, Romania / Cluj-Napoca, October 2009, ISBN 973-7937-07-04
19. Negrean, I., Kacso, K., Negrean, D.C., Duca, A.V., **Schonstein, C.** "Dynamics of 2TR-TYPE Robot Based on Acceleration Energy" / Proceedings, of the 9th International Conference MTeM, pp. 205-208, Romania / Cluj-Napoca, October 2009, ISBN 973-7937-07-04

Date: 30-th of May, 2023

Signature:

