



Universitatea Tehnică din Cluj-Napoca
Facultatea de Inginerie Industrială, Mecatronică și Robotică
Departamentul Ingineria Sistemelor Mecanice
Prof. dr. ing. Vaida Călin

LISTA

lucrărilor științifice în domeniul disciplinelor din postul didactic

A – Teza de doctorat

„Contribuții la realizarea și modelarea cinematico-dinamică a roboților paraleli pentru chirurgia minim invazivă”

Conducător științific: Prof.dr.ing. Nicolae PLITEA

Universitatea Tehnică din Cluj-Napoca

Susținere publică: 2009

Teza de abilitare: *Medical robotic systems with application in surgery, oncology and rehabilitation*

Universitatea Tehnică din Cluj-Napoca

Susținere publică: 2019

B – Cărți și capitole în cărți publicate în ultimii 10 ani

CĂRȚI

1. P. Tucan, **C. Vaida**, B. Gherman, D. Pisla, (Coordonator: D. Pisla), Medical Robotics. Vol. 1. Innovative Medical Parallel Robots for Oncology, Casa Cărții de Știință, 2023, ISBN - 978-606-17-2191-7
2. B. Gherman, **C. Vaida**, P. Tucan, D. Pisla, (Coordonator: D. Pisla), Medical Robotics. Vol. 2. Innovative Parallel Robots for Medical Rehabilitation, Casa Cărții de Știință, 2023, ISBN - 978-606-17-2192-4
3. **Vaida, C.**, Gherman, B., Pisla, D., Programarea calculatoarelor, Vol. III, Programare în MATLAB pentru ingineri, serie coordonată de by Prof. D. Pisla, Ed. Mediamira, Cluj-Napoca, 2014, ISBN- 978-973-713-312-0
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5. **Vaida, C.**, Pisla, D., Programarea calculatoarelor, Vol. I Utilizarea calculatoarelor. Aplicații, serie coordonată de by Prof. D. Pisla, Ed. Mediamira, Cluj-Napoca, 2008, ISBN – 978-973-713-247-5
6. Pisla, D., Carbone, G., Condurache, D., **Vaida, C.**, Advances in Service and Industrial Robotics, RAAD 2024, Springer, 2024.
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CAPITOLE DE CARTE

1. Tucan, P., Birlescu, I., Pusca, A., Gherman, B., Jucan, D., Antal, T., **Vaida, C.**, Pisla, A., Chablat, D., Pisla, D. (2024, August). A flexible instrument for robotic assisted minimally invasive esophagectomy. In European Conference on Mechanism Science (pp. 63-71). Cham: Springer Nature Switzerland (Springerlink).



2. Rus, G., Hajjar, N. A., Tucan, P., Zima, I., **Vaida, C.**, Radu, C., Jucan, D., Chablat, D., Pisla, D. (2024). The control architecture of a spherical robot for Minimally Invasive Surgery. arXiv preprint arXiv:2407.08286.
3. **Vaida, C.**, Gherman, B., Birlescu, I., Tucan, P., Pusca, A., Rus, G., Chablat, D., Pisla, D. (2024, June). Kinematic analysis of a parallel robot for minimally invasive surgery. In International Symposium on Advances in Robot Kinematics (pp. 188-195). Cham: Springer Nature Switzerland (Springerlink).
4. Covaciu, F., Gherman, B., Pisla, A., **Vaida, C.**, Tucan, P., Rus, G., Nadas, I., Pisla, D. (2024, June). The Use of Virtual Reality in Lower-Limb Robotic Rehabilitation. In International Conference Innovation in Engineering (pp. 204-215). Cham: Springer Nature Switzerland (Springerlink).
5. Sim, S. D., Medgyesi, A., Lendek, Z., Susca, M., Mihaly, V., Pisla, D., **Vaida, C.**, Dobra, P., Pica, A. E. (2024, May). Adaptive Filters for DC Motor Identification: A Case Study. In 2024 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR) (pp. 1-6) (IEEE Xplore).
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9. **Vaida, C.**, Rus, G., Gherman, B., Pusca, A., Tucan, P., Ulinici, I., & Pisla, D. Development of an augmented reality simulator for a robotic system used in single incision laparoscopic surgery. The Romanian Journal of Technical Sciences. Applied Mechanics., 68(1), pp 3-19, 2023. (BDI paper, Index Copernicus, CNCSIS B+).
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13. Tucan, P. Marius, S., Bogdan, G., Octavian, G., Adrian, P., Tiberiu, M., **C. Vaida**, Giuseppe, C., Doina, P. Design Optimization of a Medical Robot for Shoulder Rehabilitation. In: Okada, M. (eds) Advances in Mechanism and Machine Science. IFToMM WC 2023. Mechanisms and Machine Science, vol 148. Springer, Cham. https://doi.org/10.1007/978-3-031-45770-8_48 (Scopus).
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 17. Gherman, B., Corina, R., Andrei, C., Al Hajjar, N., **Calin, V.**, Andra, C., Paul, T., Emil, M., Doina, P. On the Stiffness Modelling of the ProHep-LCT Robotic Needle Insertion Instrument. In: Petrič, T., Ude, A., Žlajpah, L. (eds) Advances in Service and Industrial Robotics. RAAD 2023. Mechanisms and Machine Science, vol 135. Springer, Cham. https://doi.org/10.1007/978-3-031-32606-6_29 (Scopus).
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 19. Alexandru Pusca, Iulia Andras, Andrei Cailean, Nicolae Crisan, **Calin Vaida**, Corina Radu, Bogdan Gherman, Nadim Al Hajjar, Damien Chablat, Doina Pisla, On the development of an innovative surgical parallel robotic system, 2023 (Springerlink).
 20. Covaciu, F.; Pop, I.; Gherman, B.; Pisla, A.; **Vaida, C.**; Hajjar, N.A.; Pisla, D.: "Development of a Virtual Reality Simulator for Robotic Assisted Surgery". In: Laribi, M.A., Nelson, C.A., Ceccarelli, M., Zeghloul, S. (eds) New Advances in Mechanisms, Transmissions and Applications. MeTrApp 2023. Mechanisms and Machine Science, vol 124. Springer, Cham. https://doi.org/10.1007/978-3-031-29815-8_6 (Springerlink).
 21. Tucan, P., Gherman, B., Andras, I., **Vaida, C.**, Pisla, D., *Kinematic Modelling of a Parallel Robot Used in Single Incision Laparoscopic Surgery*, Symposium on Robot Design, Dynamics and Control, ROMANSY-2022, CISM, Volume 606, pp. 115-122, doi: 10.1007/978-3-031-06409-8_12, 2022
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 26. Tucan, P. Plitea, N,m Gherman, B., Hajjar, N., Radu, C., **Vaida, C.**, Pisla, D. Experimental Study Regarding Needle Deflection in Robotic Assisted Brachytherapy of Hepatocellular Carcinoma. In: Venture, G., Solis, J., Takeda, Y., Konno, A. (eds) ROMANSY 23 - Robot Design, Dynamics and Control. ROMANSY 2020. CISM International Centre for Mechanical Sciences, vol 601. Springer, Cham. https://doi.org/10.1007/978-3-030-58380-4_19
 27. Pisla, D., **Vaida, C.**, Pop, N., Ulinici, I., Banica, A., Birlescu, I., Tucan, P., Carbone, G., Pisla, A.. Dimensional and Workspace Analysis of RAISE Rehabilitation Robot. In: Pisla, D., Corves, B., Vaida, C. (eds) New Trends in Mechanism and Machine Science. EuCoMeS 2020. Mechanisms and Machine Science, vol 89. Springer, Cham. https://doi.org/10.1007/978-3-030-55061-5_19



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48. **Vaida, C.**, Gherman, B., Pisla, D., Plitea, N., A Spherical Robotic Arm for Instruments Positioning in Minimally Invasive Medical Applications, (2012), Asian Initiatives in Mechanism and Machine Science, Proceedings of the 2nd IFToMM Asian Conference on Mechanism and Machine Science, November 7 -10, 2012, Tokyo, Japan. Kindle Edition, ASIN: B00HDOD3VO, pp. 158-165, 2013
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C – Lucrări indexate ISI/BDI publicate în ultimii 10 ani

c1) Articole / studii publicate la conferințe indexate sau în reviste de specialitate de circulație internațională recunoscute (cotate ISI)

1. Pisla, D.; Popa, C.; Pusca, A.; Ciocan, A.; Gherman, B.; Mois, E.; Cailean, A.-D.; **Vaida, C.**; Radu, C.; Chablat, D.; Al-Hajjar, N. On the Control and Validation of the PARA-SILSROB Surgical Parallel Robot. Appl. Sci. 2024, 14, 7925. <https://doi.org/10.3390/app14177925> (ISI Journal, IF **2.5**, Scor relativ de influență: 0.2).
2. Elisei, R.C.; Graur, F.; Melzer, A.; Moldovan, S.C.; Tiu, C.; Popa, C.; Mois, E.; Pisla, D.; **Vaida, C.**; Ștefănescu, H.; Cote, A.; Al-Hajjar, N. Liver Phantoms Cast in 3D-Printed Mold for Image-Guided Procedures. Diagnostics 2024, 14, 1521. <https://doi.org/10.3390/diagnostics14141521> (ISI Journal, IF **3**, Scor relativ de influență: 0.87).
3. Elisei, R.C.; Graur, F.; Szold, A.; Melzer, A.; Moldovan, S.C.; Motrescu, M.; Moș, E.; Popa, C.; Pîsla, D.; **Vaida, C.**; Tiberiu, T.; Cota, A.; Al-Hajjar, N. Gelatin-Based Liver Phantoms for Training Purposes: A Cookbook Approach. J. Clin. Med. 2024, 13, 3440. <https://doi.org/10.3390/jcm13123440> (ISI Journal, IF **3**, Scor relativ de influență: 0.92).



4. Birlescu, I., Tohanean, N., **Vaida, C.**, Gherman, B., Neguran, D., Horsia, A., Tucan, P., Condurache, D. and Pisla, D., 2024. Modeling and analysis of a parallel robotic system for lower limb rehabilitation with predefined operational workspace. *Mechanism and Machine Theory*, 198, p.105674. <https://doi.org/10.1016/j.mechmachtheory.2024.105674> (ISI Journal, IF **4.5**, Scor relativ de influență: 1.29).
5. Pisla, D.; Hajjar, N.A.; Gherman, B.; Radu, C.; Antal, T.; Tucan, P.; Literat, R.; **Vaida, C.** Development of a 6-DOF Parallel Robot for Potential Single-Incision Laparoscopic Surgery Application. *Machines* 2023, 11, 978. <https://doi.org/10.3390/machines11100978> (ISI Journal, IF **2.6**, Scor relativ de influență: 0.762).
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7. Tohanean, N.; Tucan, P.; Vanta, O.-M.; Abrudan, C.; Pinte, S.; Gherman, B.; Burz, A.; Banica, A.; **Vaida, C.**; Neguran, D.A.; et al. The Efficacy of the NeuroAssist Robotic System for Motor Rehabilitation of the Upper Limb—Promising Results from a Pilot Study. *J. Clin. Med.* 2023, 12, 425. <https://doi.org/10.3390/jcm12020425>
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03.12.2024

Semnătura