

**A N E X A 4 . 1 5**

Nume Prenume: Dumitru Sorin

Gradul didactic: Șef lucrări

Instituția unde este titular: Universitatea din Craiova

Facultatea: de Automatică, Calculatoare și Electronică

Departamentul: de Automatică și Electronică

## **L I S T A**

### **lucrărilor științifice în domeniul disciplinelor din postul didactic**

#### **A. Teza de doctorat**

Sisteme de conducere a robotilor tentaculari, conducator Prof. Dr. Ing. Mircea Ivanescu (sustinere publica 2011)

#### **B. Cărți si capitole în cărți publicate în ultimii 10 ani**

1. Cojocaru D., Ivănescu M., Manta Fl., Dumitru S. and Tănasie T.R. (2010). *Hyper-redundants robots*, Editura Universitaria, ISBN 978-606-510-980-3, Craiova, Romania
2. Sorin Dumitru, Mircea Ivănescu, Dorian Cojocaru, Soluții de acționare și conducere pentru roboți hiperredundanți, 2014, Editura Universitaria, Editura Pro Universitaria, ISBN 978-606-14-0889-4, ISBN 978-606-26-0171-3

#### **C. Lucrări indexate ISI/BDI publicate în ultimii 10 ani**

1. Geonea, I., Dumitru, S., Copilusi, C., Margine, A., & Rinderu, P. (2018). Design and Numerical Characterization of a Leg Exoskeleton Linkage for Motion Assistance. In Proceedings of the World Congress on Engineering and Computer Science (Vol. 2)
2. Dumitru N., Geonea I., Copilusi C., Dumitru S., Otat O. (2019) Dynamic Models for Analyzing a Self-propelled Vehicle for People with Locomotor Disabilities. In: Burnete N., Varga B. (eds) Proceedings of the 4th International Congress of Automotive and Transport Engineering (AMMA 2018). AMMA2018 2018. Proceedings in Automotive Engineering. Springer, Cham.  
[https://link.springer.com/chapter/10.1007/978-3-319-94409-8\\_78](https://link.springer.com/chapter/10.1007/978-3-319-94409-8_78)
3. Copilusi, C., Dumitru, S., Geonea, I., Rosu, E., & Ceccarelli, M. (2019). Numerical Simulation of a Leg Exoskeleton for Human Motion Assistance. In *New Trends in Medical and Service Robotics* (pp. 101-108). Springer, Cham. WOS:000460759400012
4. Dumitru, N., Malciu, R., Calbureanu, M., Dumitru, S., Marinescu, G., 2012, Dynamic Analysis of a Mobile Mechanical System with Deformable Elements – Book Series: Advanced Materials Research,

- Editor(s): Fan, W., Source: ADVANCED MATERIALS RESEARCH II, PTS 1 AND 2, Volume: 463-464, Pages: 1242-1245, DOI:10.4028/www.scientific.net/AMR.463-464.1242.
5. Dumitru, V., Dumitru, S., Computer-aided Modeling for a Poly-Articulated Robotic Arm with Spherical Joints, 2011, Proceedings of World Congress on Engineering, pages 2106-2011, ISBN/ISSN 978-988-19251-5-2,
  6. Dumitru, S., Cojocaru, D., Manta, F., 2011, Experiments in determining the Displacements and Angular Amplitudes of a Hyper-Redundant Robot - 15th International Conference on System Theory, Control and Computing – ICSTCC 2011, page(s):1–6, 14-16 October 2011 Sinaia, Romania (INSPEC Accession Number: 12390427 IEEE Xplore).
  7. Manta, F., Dumitru, S., Cojocaru, D., 2011, Closed Loop Control for a 3D Tentacle Robot using Artificial Vision System - 15th International Conference on System Theory, Control and Computing – ICSTCC 2011, page(s): 1 – 6, 14-16 October 2011 Sinaia, Romania (INSPEC Accession Number: 12390436 IEEE Xplore).
  8. Dumitru, N., Malciu, R., Dumitru, S., Margine, A., Optimization in dynamic regime of a Francis hydraulic turbine wicket gate mechanism, 2011, 13th World Congress in Mechanism and Machine Science - IFToMM 2011, pages 1-10, ISSN/ISBN 978-607-441-131-7, [http://somim.org.mx/conference\\_proceedings/pdfs/A8/A8\\_564.pdf](http://somim.org.mx/conference_proceedings/pdfs/A8/A8_564.pdf)
  9. Marghitu, D.B., Cojocaru, D., Dumitru, S., 2012, The Variation of the Coefficient of Restitution with the Impact Angle - 16th International Conference on System Theory, Control and Computing Joint Conference SINTES 16, SACCS 12, SIMSIS 16, page(s): 1-5, 12 - 14 October 2012, Sinaia, Romania (INSPEC Accession Number: 13175144 IEEE Xplore).
  10. Rosca, A., Craciunoiu, N., Dumitru, S., Dumitru, N., Cojocaru, D., 2012, ARX development for SQL connection with Mechanical Desktop - 14th IFAC Symposium of Information Control Problems in Manufacturing – INCOM 2012, Volume #14, Part #1, pages 1660-1665, Bucharest, Romania.
  11. Viorel Stoian, Sorin Dumitru, Daniel Strîmbeanu, „Modelling and Control of a Mobile Robot, Equipped with an Arm in Cylindrical Coordinates with Uncoupled Tentacular Terminal”, The 3rd International Congress-Science and Management of Automotive and Transportation Engineering (SMAT 2014 - SIAR Congress), 23rd – 25th of October, 2014, Craiova, Romania, pp. 375-380, Section: Road Vehicles and Environment, ISBN: 978-606-14-0864-1, 978-606-14-0865-8.
  12. Manta, L.F., Dumitru, S., Cojocaru, D., 2014, Dynamic model for hyper-redundant robots, 18th International Conference on System Theory, Control and Computing, 17-19 October, Sinaia, România
  13. Bolcu Dumitru, Stanescu Marius, Dumitru Sorin, 2014, The non-uniformity from the composite materials reinforced with fiber glass fabric, Revista Materiale Plastice, Volum 1, Nr. 51, pg. 97-100, ISBN/ISSN 0025-5289
  14. Dumitru, S., Cojocaru, D., Marghitu, D., Computer Aided Design of a Hyper-redundant Manipulator, ADVANCES IN ELECTRICAL AND COMPUTER ENGINEERING, Volume: 13, Issue: 4, Pages: 51-56, DOI: 10.4316/AECE.2013.04009, Published: 2013
  15. Nicolae Dumitru, Sorin Dumitru, Cristian Copilusi, Nicu Ploscaru, "Modal Dynamic Analysis of a Mechanism with Deformable Elements from an Oil Pump Unit Structure", WASET, International Journal of Mechanical, Aerospace, Industrial, Mechatronic and Manufacturing Engineering, Vol.10, No.8, 2016, factor de impact 1,011

16. **Dumitru, S.**, Cojocar, D., Manta, L.F., Dumitru, N., Grecu, V., The Experimental Model of an Forearm Exoprosthesis, 19th International Conference on System Theory, Control and Computing Joint Conference SINTES 19, SACCS 15, SIMSIS 19, October 14-16, Cheile Gradistei - Fundata Resort, Romania, 2015
17. **Dumitru N.**, Dumitru S., Stoian V., Geonea I., “Vehicle Steering Mechanism Elastodynamic Analysis”. Proceedings of International Conference of Mechanical Engineering ICOME 2015. Trans Tech Publications – Current Solutions in Mechanical Engineering. pp.241-246. 2016

**D. Lucrări publicate în ultimii 10 ani în reviste și volume de conferințe cu referenți (neindexate)**

**- Reviste**

1.

**- Selecție cu maximum 20 lucrări în volume de conferințe**

1.

**E. Brevete obținute în întreaga activitate**

1. Brevet obținut prin hotărârea nr 4/24 din 30.01.2019 pt „Sistem tehnic Gat biofidelic al manechinelor de testare pentru încercări experimentale”.

Solicitanți Ciunel Stefanita, Dumitru Sorin et al

2. Patent Number(s): RO134430-A1, Inventor(s): GEONEA I D, DUMITRU N, DUMITRU S, COPILUSI P C, CIUREZU-GHERGHE L  
Patent Assignee Name(s) and Code(s): UNIV CRAIOVA (UYCR-Non-standard)  
Derwent Primary Accession Number: 2020-97272M  
Exoskeleton type mechatronic system for assisting walking of locomotor disabled persons, has elements whose lengths are adjustable depending on anthropomorphic dimensions of subjects, and structure that consists of mobile kinematic elements
3. Patent Number(s): RO133604-A2, Inventor(s): DUMITRU N, GEONEA I D, DUMITRU S, COPILUSI P C, CIUREZU-GHERGHE L  
Patent Assignee Name(s) and Code(s): DUMITRU N(DUMI-Individual), GEONEA I D(GEON-Individual)  
DUMITRU S(DUMI-Individual), COPILUSI P C(COPI-Individual), CIUREZU-GHERGHE L(CIUR-Individual)  
Derwent Primary Accession Number: 2019-839404
4. Exoskeleton-type system to assist locomotion in locomotor-disabled persons, has elements leading mechanisms for right leg and left leg which are actuated by electric motor which transmits movement to axle  
Patent Number(s):RO134022-A2, Inventor(s): DUMITRU N, COPILUSI P C, DUMITRU S, GEONEA I D, ROSU E  
Patent Assignee Name(s) and Code(s): UNIV CRAIOVA (UYCR-Non-standard)  
Derwent Primary Accession Number: 2020-36417K



Robotic system for neuro-motor rehabilitation for functional recovery of person, has elements that are articulated to one another by some kinematic rotation couples, and movement of three actuators are placed on frame by chain transmissions

Abstract: NOVELTY - The robotic system has plane-parallel mechanisms, a pair for the left leg and the second pair for the right leg. The mechanism has kinematic elements whose shape models the lower limbs. The elements are articulated to one another by some kinematic rotation couples. The movement of three actuators are placed on a frame by chain transmissions to the control elements of plane-parallel mechanisms.

USE - Robotic system for neuro-motor rehabilitation for functional recover

**Data: 30.09.2020**

**Semnătura:**

E – Brevete (pentru întreaga activitate)