

## LISTA DE LUCRĂRI

### A. Teza de doctorat

**Mircea Cristian Dudescu** (2001): *Studiul învelitorilor cu pereți subțiri cu aplicație la tuburile ondulate*. Universitatea Tehnică din Cluj-Napoca. Conducător științific: Prof.dr.ing. Ioan Păstrav.

### B. Cărți și capitole în cărți (în edituri recunoscute CNCSIS):

1. Atanasiu, C., Jiga, G., **Dudescu, M.C.** (2018): *Dicționar explicativ pentru știința și tehnologie română/englez/francez/german. Rezistența materialelor*, Editura AGIR, București, ISBN 978-973-720-741-8.
2. Pustan, M., Birleanu, C., **Dudescu C.**, Golinval, J.C. (2018): *Dynamic behavior of smart microelectromechanical systems in industrial applications*, book chapter in In Woodhead Publishing Series in Electronic and Optical Materials, Smart Sensors and MEMs (Second Edition), Editor(s): Stoyan Nihtianov, Antonio Luque; Woodhead Publishing, pp. 377-394, ISBN 9780081020555, DOI: [10.1016/B978-0-08-102055-5.00014-0](https://doi.org/10.1016/B978-0-08-102055-5.00014-0).
3. Mihail Hărdău, **Mircea Cristian Dudescu**, Mihaela Suciu, Mihaela Simion, Radu Chiorean, Ioana Rad (2018): *Metode experimentale în Rezistența Materialelor. Îndrumător de lucrări de laborator*. Editura U.T.Press, Cluj-Napoca, ISBN 978-606-737-282-3, 210 pag, [biblioteca.utcluj.ro/carti-online](http://biblioteca.utcluj.ro/carti-online).
4. Marius Pustan, **Cristian Dudescu**, Corina Birleanu and Florina Rusu (2017): *Nanomechanics*, InTech, Chapter 5 “*Nanocharacterization of the Mechanical and Tribological Behavior of MEMS Micromembranes*”, DOI: [10.5772/intechopen.68292](https://doi.org/10.5772/intechopen.68292).
5. Radu Chiorean, **Cristian Dudescu** (2016): *Aplicarea software-ului educațional MDSolids la calculul de rezistență al arborilor reductoarelor*, capitol în *Organe de mașini – Metodologie de predare a disciplinei la diferite specializări*, Editori: Corina Birleanu, Simion Haragâș, Marius Pustan, Editura Risoprint, Cluj-Napoca, 2016, ISBN 978-973-53-1793-5.
6. **Mircea Cristian Dudescu**, (2013): *Rezistența Materialelor. Noțiuni fundamentale. Solicitări simple*. Editura U.T.PRESS, Cluj-Napoca, ISBN 978-973-662-831-3, 320 pag.
7. Pustan, M., Birleanu, C., **Dudescu C.**, Golinval, J.C. (2013): *Smart sensors and MEMS: Intelligent devices and microsystems for industrial applications*, **Woodhead Publishing Limited**, Cambridge, UK, ISBN 0-85709-502-1, Book Chapter 12 “*Dynamical behavior of smart MEMS in industrial applications*”, pp. 349-365, DOI: [10.1533/9780857099297.2.349](https://doi.org/10.1533/9780857099297.2.349)
8. **Mircea Cristian Dudescu**, (2010): *Introducere în interferometria electronică granulară*. Editura **Risoprint**, Cluj-Napoca, ISBN 978-973-53-0291-7, 164 pag. (tiraj 100 ex).
9. Ioan Păstrav, **Mircea Cristian Dudescu** (2009): *Lucrări de laborator de metode optice de analiză a tensiunilor*. Editura U.T.Pres, Cluj-Napoca, ISBN 978-973-662-452-0, 92 pag. (tiraj 100 ex).
10. **Mircea Cristian Dudescu**, (2005): *Calculul de Rezistență al Tuburilor Ondulate*. Editura U.T.Press, Cluj-Napoca, ISBN 973-662-207-X, 160 pag. (tiraj 100 ex).
11. Mihail Hărdău, Marioara Șomotecan, **Mircea Cristian Dudescu** (2002): *Metoda Elementelor Finite, Îndrumător de lucrări, vol. I – Structuri formate din bare*. Editura U.T.Pres, ISBN 973-8335-30-2, 76 pag.
12. Augustin Crețu (coordonator), ș.a., **Mircea Cristian Dudescu**, ș.a. (2001): *Tensiuni, Stresses, Contraintes*. Editura Mediamira, Cluj-Napoca, ISBN 973-9358-89-6, 238 pag.

### C. Articole publicate în reviste de specialitate

#### C1. Articole publicate în reviste cotate ISI / ISI Proceedings / BDI

1. **Dudescu, M.C.**, Racz, L., Popa, F. (2022). *Effect of infill pattern on fatigue characteristics of 3D printed polymers*, *Materials Today: Proceedings*, 2022, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2022.11.283>
2. Platon, M. A., Nemeș, O., Tiuc, A. E., Vilău, C., **Dudescu, C. M.**, & Pădurețu, S. (2022). *The Influence of Process Parameters on the Mechanical Behavior of a Composite Material Made from Mixed Plastic*

- Wastes. Archives of Metallurgy and Materials, 1235-1241. <https://doi.org/10.24425/amm.2022.141047>
3. Cimpean, S. I., Burtea, A. L. C., Chiorean, R. S., **Dudescu, M. C.**, Antoniac, A., Robu, A., ... & Timis, L. I. (2022). *Evaluation of Bond Strength of Four Different Root Canal Sealers*. Materials, 15(14), 4966. <https://doi.org/10.3390/ma15144966>
  4. Pop, S. I., **Dudescu, M.**, Mihali, S. G., Păcurar, M., & Bratu, D. C. (2022). *Effects of Disinfection and Steam Sterilization on the Mechanical Properties of 3D SLA-and DLP-Printed Surgical Guides for Orthodontic Implant Placement*. Polymers, 14(10), 2107. <https://doi.org/10.3390/polym14102107>
  5. Muresanu, A. D., & **Dudescu, M. C.** (2022). *Numerical and Experimental Evaluation of a Battery Cell under Impact Load*. Batteries, 8(5), 48. <https://doi.org/10.3390/batteries8050048>
  6. Racz, L., & **Dudescu, M. C.** (2022). *Numerical Investigation of the Infill Rate upon Mechanical Properties of 3D-Printed Materials*. Polymers, 14(10), 2022. <https://doi.org/10.3390/polym14102022>
  7. Rusu, M. M., Vilau, C., **Dudescu, C.**, Pascuta, P., Popa, F., & Ardelean, I. (2022). *Characterization of the Influence of an Accelerator upon the Porosity and Strength of Cement Paste by Nuclear Magnetic Resonance (NMR) Relaxometry*. Analytical Letters, 1-9. <https://doi.org/10.1080/00032719.2022.2072855>
  8. Bodea, I. M., Cătunescu, G. M., Pop, C. R., Fiț, N. I., David, A. P., **Dudescu, M. C.**, ... & Beteg, F. I. (2022). *Antimicrobial Properties of Bacterial Cellulose Films Enriched with Bioactive Herbal Extracts Obtained by Microwave-Assisted Extraction*. Polymers, 14(7), 1435. <https://doi.org/10.3390/polym14071435>
  9. Cimpean, S. I., Burtea, A. L. C., Chiorean, R. S., **Dudescu, M. C.**, Antoniac, A., Robu, A., ... & Timis, L. I. (2022). *Evaluation of Bond Strength of Four Different Root Canal Sealers*. Materials 2022, 15, 4966. <https://doi.org/10.3390/ma15144966>
  10. Cristea, A., Pustan, M., Bîrleanu, C., **Dudescu, C.**, Floare, C.G., Tripon, A.M., Banciu, H.L. (2022): *Mechanical Evaluation of Solvent Casted Poly(3-hydroxybutyrate) Films Derived from the Storage Polyesters Produced by Halomonas elongata DSM 2581T*. J Polym Environ 30, 424-430. <https://doi.org/10.1007/s10924-021-02204-4>
  11. Vilau, C., **Dudescu, M.C.** (2021): *Impact Behaviour Of Expanded Polystyrene By Experimental And Numerical Methods*. Acta Technica Napocensis - Series: Applied Mathematics, Mechanics, And Engineering, 64(2), ISSN 2393-2988.
  12. Cadar, C., Fort, C. I., Mihis, A., Kedves, Z., Magyari, K., Baia, L., **Dudescu, M.C.**, Olteanu, I., Cotet, L.C., & Danciu, V. (2021). *3-Aminopropyl-Triethoxysilane Functionalized Graphene Oxide for Silane-Based Consolidation Treatments to Increase Mortar Performances*. Journal of Nanoscience and Nanotechnology, 21(4), 2351-2359. <https://doi.org/10.1166/jnn.2021.18958>
  13. Cotet, L. C., Cadar, C., Mihis, A., Magyari, K., Muresan-Pop, M., Pop, L. C., Mihaila, A., Szekely, I., Dragan, S., **Dudescu, M.**, Zgura, I., Matei, E., Baia, M., Baibarac, M., Anghel, I., Baia, L. (2021): *Mixture of graphene oxide/phosphoric acid/melamine as coating for improved fire protective performance and enhancement of surface electrical properties on wood chipboard*, Journal of Nanoscience and Nanotechnology, 21(4), pp. 2312-2322(11), <https://doi.org/10.1166/jnn.2021.18959>.
  14. Bodea IM, Beteg FI, Pop CR, David AP, **Dudescu M.C**, Vilău C, Stănilă A, Rotar AM, Cătunescu GM. (2021) *Optimization of Moist and Oven-Dried Bacterial Cellulose Production for Functional Properties*. Polymers 2021, 13, 2088. Polymers. 13(21): 3821. <https://doi.org/10.3390/polym13213821>
  15. Leordean D, Vilău C, **Dudescu M.C.** (2021): *Generation of Computational 3D Models of Human Bones Based on STL Data and CAD Software Packages*. Applied Sciences. 11(17):7964. <https://doi.org/10.3390/app11177964>
  16. Bere, P., **Dudescu, M.**, Neamțu, C., Cocian, C. (2021): *Design, Manufacturing and Test of CFRP Front Hood Concepts for a Light-Weight Vehicle*. Polymers 13(9): 1374. <https://doi.org/10.3390/polym13091374>
  17. Racz, L., **Dudescu, M.C.** (2020): *Evaluation of Impact Properties of 3d Printed Materials*. ACTA TECHNICA NAPOCENSIS - Series: APPLIED MATHEMATICS, MECHANICS, and ENGINEERING, 63(4), pp. 437-442.
  18. Serdean, F., Pustan, M., **Dudescu, C.**, Bîrleanu, C., & Serdean, M. (2020): *Analysis of the Thermoelastic Damping Effect in Electrostatically Actuated MEMS Resonators*. Mathematics, 8(7), 1124. DOI: [10.3390/math8071124](https://doi.org/10.3390/math8071124)
  19. Pop, S.I., Szabolcs, Z., Bratu, D.C., **Dudescu, M.**, Pacurar, M., Contac, L.R., (2020) *Evaluation of the Biomechanical Properties of Austenitic Stainless Steel Fixed Retainers*. Rev. Chim., 71(9), pp. 320-324. <https://doi.org/10.37358/RC.20.9.8342>

20. Vilau, C., & **Dudescu, M. C.** (2020): *Investigation of Mechanical Behaviour of Expanded Polystyrene Under Compressive and Bending Loadings*, Materiale Plastice, 57 (2), pp. 199-207. <https://doi.org/10.37358/MP.20.2.5366>
21. Chiorean, R. S., **Dudescu, M. C.**, Neamtu, C. G., Bere, P. & Fartan, M. (2020): *Design considerations for a modern tram bogie: from sheet metal to multi-layer carbon fiber reinforced composite material*. ACTA TECHNICA NAPOCENSIS-Series: APPLIED MATHEMATICS, MECHANICS, and ENGINEERING, 63(2).
22. Cimpean, S.I., Pop-Ciutrla, I., Buduru, S., Pavel, L., Florea, D.F., Delean, A.G., Moldovan, M., **Dudescu, M.C.**, Berbece, S., Voinescu, D.C., Beznea, A., Negucioiu, M., Stefanescu, V. (2020). *Assessing Fracture Resistance of non Vital Teeth Using Two Different Composite Systems: Short-Fibre-Reinforced Composite and Glass Fibre Post with Microfilled Hybrid Composite*. MATERIALE PLASTICE, 57(4), 286-296. <https://doi.org/10.37358/MP.20.4.5427>
23. Maries, I. T., Vilau, C., Pustan, M. S., **Dudescu, C.**, & Crisan, H. G. (2020): *Determining the tribological properties of different 3D printing filaments*. In IOP Conference Series: Materials Science and Engineering (Vol. 724, No. 1, p. 012022). IOP Publishing. <https://doi.org/10.1088/1757-899X/724/1/012022>
24. Simion, M., **Dudescu, C.**, Bere, P. & Cocean, C. (2019). *Material parameters identification of carbon fibres composites with strain gauges*. ACTA TECHNICA NAPOCENSIS-Series: APPLIED MATHEMATICS, MECHANICS, and ENGINEERING, 62(3).
25. Panc, N., **Dudescu, M. C.**, Hancu, L., & Popescu, A. (2019). *Aging influence upon some mechanical properties of silicon rubber*. ACTA TECHNICA NAPOCENSIS-Series: APPLIED MATHEMATICS, MECHANICS, and ENGINEERING, 62(2).
26. Ilea, A., Butnaru, A., Sfrângeu, S.A., Hedesiu, **Dudescu, M.C.**, et al. (2019): *Temporal bone trauma effects on auditory anatomical structures in mastoid obliteration*. European Archives of Oto-Rhino-Laryngology 276, 513–520 (2019). <https://doi.org/10.1007/s00405-018-5227-6>
27. Bere, P., **Dudescu, M.**, Neamtu, C., Nemes, O., Moldovan, C., and Simion, M. (2019): *Fabrication and Mechanical Characterization of Short Fiber-Glass Epoxy Composites*, Materials Performance and Characterization, Vol. 8, No. 1, pp. 163-174, <https://doi.org/10.1520/MPC20180171>.
28. Pașcalău, V., Dindelegan, G., Dirzu, N., Salantiu, A. M., Pavel, C., **Dudescu, M. C.**, ... & Popa, C. (2018): *Bioactive Ti-base biomaterial with sustained anti-bacterial response for endosseous applications*. Reactive and Functional Polymers, 125, pp. 37-46, DOI: 10.1016/j.reactfunctpolym.2018.02.007.
29. Birleanu, C., Pustan, M., Rusu, F., **Dudescu, C.**, Muller, R., Baracu, A. (2018): *Relative humidity influence on adhesion effect in MEMS flexible structures*, Microsystem Technologies, pp.1-11 DOI:10.1007/s00542-018-3848-8 , (first on-line).
30. **Dudescu, C.**, Racz, L. (2018): *Effects of Raster Orientation, Infill Rate and Infill Pattern on the Mechanical Properties of 3D Printed Materials*. ACTA Universitatis Cibiniensis, 69(1), 23-30. DOI: 10.1515/aucts-2017-0004
31. Gherman, T., Popescu, V., Carpa, R., Rapa, M., Gavril, G. L., **Dudescu, M. C.**, & Bombos, D. (2018): *Potential Use of Galium verum Essential Oil for Antibacterial Properties in Gelatin Based Hydrogels Prepared by Microwave Irradiation Technique*. REVISTA DE CHIMIE, 69(3), pp.575-580.
32. Buescu, C. T., **Dudescu, C. M.**, Caterev, S., & Lucaciu, D. G. O. (2018): *Double whip stitch for free graft femoral fixation in ACL reconstruction: experimental study on porcine model*. Clujul Medical, 91(1), 48, DOI: 10.15386/cjmed-816
33. Pustan, M., **Dudescu, C.**, Birleanu, C. (2017): *Influence of the excitation modes on the resonators quality factor*, Romanian Journal for Information Science and Technology (ROMJIST), 20(4), pp. 342–353.
34. Bere, P., Neamtu, C., **Dudescu, C.** (2017): *Design and manufacturing front hood for electric vehicle by carbon fiber*, MATEC Web of Conferences 112, 0702, pp. 1-6, DOI: 10.1051/mateconf/201711207021
35. Bere, P., Popescu, A., **Dudescu, C.**, Hancu, L. (2017): *Influence of the stacking sequence on the mechanical proprieties of glass fiber reinforced polymer*, MATEC Web of Conferences 112, 04006, pp.1-6, DOI: 10.1051/mateconf/201711204006
36. Cotet, L.C., Klara, M., Todea, M., **Dudescu, M.C.**, Danciu, V., Baia, L. (2017): *Versatile self-assembled graphene oxide membranes obtained in ambient conditions by using a water-ethanol suspension*, Journal of Materials Chemistry A, 5, pp. 2132-2142, DOI: 10.1039/C6TA08898H
37. Pop, S.I., Bratu, D.C., Chiorean, R., Balan, R.A., Bud, A., Petrescu, H.P., Simion, C.P., **Dudescu, M.** (2017): *Biochemical Characteristics of Mini-implants Sterilised by Different Chemical and Physical Procedures*, Materiale Plastice, 54(2), pp.253-257.
38. Pustan, M., Birleanu, C., **Dudescu, C.**, Rusu, F. (2017): *Investigation on the contact behaviour of MEMS micromembrane with serpentine hinges*, IOP Conference Series: Materials Science and Engineering, 174(1), 012028, DOI: 10.1088/1757-899X/174/1/012028

39. Birleanu, C., Pustan, M., **Dudescu, C.**, Merie, V., Pinte, I. (2017): *Analysis of the bending stiffness and adhesion effect in RF-MEMS structures*, IOP Conference Series: Materials Science and Engineering, 174(1), 012029, DOI: [10.1088/1757-899X/174/1/012029](https://doi.org/10.1088/1757-899X/174/1/012029)
40. Miron-Borzan, C.S. **Dudescu, M.C.**, Berce, P. (2017): *Bending and compression tests for PA 2200 parts obtained using Selective Laser Sintering method*, MATEC Web Conf. **94** 03010, DOI: [10.1051/mateconf/20179403010](https://doi.org/10.1051/mateconf/20179403010)
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42. Pop, S. I., **Dudescu, M.**, Merie, V., Pacurar, M., Bratu, C. (2017): *Evaluation of the mechanical properties and surface topography of as-received, immersed and as-retrieved orthodontic archwires*, Clujul Medical, **90**(3), pp.313-326, DOI: [10.15386/cjmed-729](https://doi.org/10.15386/cjmed-729)
43. Pustan, M., Chiorean, R., Birleanu, C., **Dudescu, C.**, Muller, R., Baracu, A., Voicu, R. (2017): *Reliability design of thermally actuated MEMS switches supported by V-Beams*. Microsystem Technologies, 23(9), pp. 3863-3871, DOI: [10.1007/s00542-015-2789-8](https://doi.org/10.1007/s00542-015-2789-8)
44. Pustan, M., **Dudescu, C.**, Birleanu, C., Rusu, F., Chiorean, R., Craciun, S. (2016): *Effect of geometrical dimensions on the tribomechanical response of a gold micromembrane with bent beam hinges*, IOP Conference Series: Materials Science and Engineering, **147**(1), 012022, DOI: [10.1088/1757-899X/147/1/012022](https://doi.org/10.1088/1757-899X/147/1/012022)
45. Maxim, D.I., Marşavina, L., **Dudescu, M.C.** (2016): *Calibration of a Shear Specimen*, Solid State Phenomena, Vol. 254, pp. 138-143, DOI: [10.4028/www.scientific.net/SSP.254.138](https://doi.org/10.4028/www.scientific.net/SSP.254.138)
46. Pop, S., Bratu, D.C., Koncz, K., **Dudescu, M.**, Esian, D., Simon, C., Ardelean, L. (2016): *Properties of the Epoxy-coated NiTi Open Coil Springs*. Revista de Chimie, **67**(5), pp. 1001-1003.
47. Miron Borzan C.S., **Dudescu, M.C.**, Ceclan, V., Trif, A., Ridzon, M., Berce, P. (2016): *PA 2200 vs. PMMA: Comparison between the mechanical proprieties obtained for the 2 biocompatible materials*. Materiale Plastice, **53**(1), pp. 1-5.
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49. Giurgea, C., Bode, F., Nascutiu, L., **Dudescu, C.** (2016): *Considerations Regarding the Optically Transparent Rigid Model for PIV Investigations. A Case Study. Part 2: Notes on the Failure of the Model*. Energy Procedia, vol. 85, pp. 235-243, DOI: [10.1016/j.egypro.2015.12.233](https://doi.org/10.1016/j.egypro.2015.12.233).
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52. Pustan, M., **Dudescu, C.** and Birleanu, C. (2015): *Static response and stiction analysis of MEMS micromembranes for optical applications*. Phys. Status Solidi C, **12**(12), pp. 1322-1327, DOI: [10.1002/pssc.201510096](https://doi.org/10.1002/pssc.201510096).
53. Cosma, S.C., Balc, N., Leordean, D., Moldovan, M., **Dudescu, M.**, Borzan, C. (2015): *Customized medical applications of selective laser melting manufacturing*. Academic Journal of Manufacturing Engineering, 13 (1), pp. 24-32, ISSN: 15837904. (Scopus).
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60. Miron-Borzan, C.S., **Dudescu, M.C.**, Khalid Abd Elghany, Ceclan, V., Berce P. (2015): *Analysis of Mechanical Properties of Selective Laser Sintered Polyamide Parts Obtained on Different Equipment*. Materiale Plastice, **52**(1), pp. 39-42.
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