

## Listă lucrări științifice, cărți și contracte de cercetare – Conf. univ. Dr. Ing. Eugen Avrigean

### A. Cărți și capitole în cărți de specialitate sau volume colective

1. Sofonea, G., Pascu, A.M., **Avrigean E.** Special Elements of Strength Materials, ISBN Editura Universitatii "Lucian Blaga" Sibiu, 2021.
2. **Avrigean E.** Theoretical and Experimental Studies on the Mechanical Behavior of Welded High Density Polyethylene Pipe and Fitting Assemblies. ISBN 978-606-12-1761-8. Editura Universitatii "Lucian Blaga" Sibiu. Pag. 232. 2020.
3. **Avrigean E.** Strenght of Materials. ISBN 978-606-12-1703-8. Editura Universitatii "Lucian Blaga" Sibiu. Pag. 124. 2019.
4. **Avrigean E.**, Bondrea, I., Pascu, A.M., Oleksik, V.S. Theoretical and experimental analysis of the cardanic transmissions, LAP Lambert Academic Publishing, Germany, 2016, pag. 202, ISBN 978-3-659-69486-8.
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6. **Avrigean E.** Studii teoretice si experimentale asupra comportarii mecanice a ansamblurilor sudate de tevi si fittinguri din polietilena de inalta densitate. ISBN 978-606-12-1065-7. Editura Universitatii "Lucian Blaga" Sibiu. Pag. 234. 2015.
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12. Duse, D. M. , Bondrea, I., **Avrigean E.** Fabricatia integrata de calculator CIM a transmisiilor cardanice. ISBN 973-651-609-1 . Editura Universitatii "Lucian Blaga" Sibiu. Pag. 432 . 2003.
13. Bondrea, I., **Avrigean E.** Proiectarea constructiva si tehnologica asistata de calculator ISBN 973-651-332-7 . Editura Universitatii "Lucian Blaga" Sibiu. Pag. 202. 2002.
14. Bondrea, I., **Avrigean E.** Optimizarea produselor si proceselor tehnologice de prelucrare ISBN 973-651-363-7 . Editura Universitatii "Lucian Blaga" Sibiu. Pag. 212. 2001.
15. Sofonea, G., Fratila M., Vasiloaica, C., Pascu, A., **Avrigean E.** Rezistenta materialelor - Indrumar de laborator ISBN 973-651-144-8 . Editura Universitatii "Lucian Blaga" Sibiu. Pag. 130 . 2000.

**B. Articole publicate ca autor sau coautor în reviste cotate ISI, ERIH, SCOPUS sau alte BDI**

1. Oleksik, V., **Avrigean, E.**, s.a. (2021). Experimental Research on the Behaviour of Metal Active Gas Tailor Welded Blanks during Single Point Incremental Forming Process. Metals, 11(2), Article 198. <https://doi.org/10.3390/met11020198>, WOS:000622771200001, quartila Q2 după factor impact 2022, factor impact 2.9.
2. Rosca, N., Olesik, M., Rosca, L., **Avrigean, E.**, Trzepiecinski, T., Najm, S.M., Olesik, V. (2023). Minimizing the Main Strains and Thickness Reduction in the Single Point Incremental Forming Process of Polyamide and High-Density Polyethylene Sheets. Materials, 16 (4), Article 1644. <https://doi.org/10.3390/ma16041644>, WOS:000941590100001, quartila Q2 după factor de impact 2022, Q1 la momentul publicării, factor impact 3.4.
3. **Avrigean E.**, (2021): Studies and Research on the Behavior of Polyethylene when Electrofusion Welding Fittings to High Density Polyethylene Pipes. 2021. Revista de Chimie – Revista Materiale Plastice, Volume 58, pg. 85 – 98, Bucuresti, Romania, 2021. <http://www.revistadechimie.ro/> factor impact 0,1,517 si SRI 0,183 . <https://doi.org/10.37358/MP.21.1.5448>
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6. **Avrigean E.** (2021) Identifying the Necessary Solutions to Prevent the Fracture of the Polyethylene Pipe undergoing a Squeeze-off Procedure. International Journal of Science and Research (IJSR). ISSN (Online): 2319-7064, Research Paper, Mechanical Engineering, Volume 10 Issue 10, Octomber 2021, pg. 818 – 822.
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8. **Avrigean E.** (2020) Analysis and Calculation of Stresses, Strains and Displacements in the Cardanic Cross Joint of Vehicles. International Journal of Science and Research (IJSR). ISSN (Online): 2319-7064, Research Paper, Engineering, Romania, Volume 9 Issue 6, June 2020. Pg. 197 – 201.
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10. **Avrigean E.** (2020) Fracture of High-Density Polyethylene Welded Assemblies Used in Natural Gas Distribution Networks. Global Journal for Research Analysis, Website: [www.worldwidejournals.com](http://www.worldwidejournals.com) (ISSN 2277-8160). VOLUME - 9, ISSUE - 11, November - 2020 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra
11. Pascu, A., **Avrigean E.** s.a. Experimental studies on uniaxial and echibiaxial tensile tests

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16. Stefan Mihai Filip, **Avrigean E.**: Study on the Behavior of the Cold-Applied Extruded Polyethylene Insulation Under The Influence of Mechanichal Actions – Part 1. International Journal of Science and Research (IJSR). ISSN (Online): 2319-7064, Impact Factor (2015): 3.358 ISSN No: 2249 – 555X) Website: [www.ijsr.net](http://www.ijsr.net) IMPACT FACTOR 2014: 6.391, Index Copernicus Value 2015: 6.14, (<http://www.ijsr.net/archive/v3i10> ).
17. Stefan Mihai Filip, **Avrigean E.** (2018) Study on the Behavior of the Cold-Applied Extruded Polyethylene Insulation Under The Influence of Mechanichal Actions – Part 2. International Journal of Science and Research (IJSR). ISSN (Online): 2319-7064, Impact Factor (2015): 3.358 ISSN No: 2249 – 555X) Website: [www.ijsr.net](http://www.ijsr.net) IMPACT FACTOR 2014: 6.391, Index Copernicus Value 2015: 6.14, (<http://www.ijsr.net/archive/v3i10> ).
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22. Filip S., **Avrigean E.** (2017): Study on the behavior of the cold-applied extruded polyethylene insulation under the influence of mechanical actions. 2017 Revista de Chimie

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26. Stetiu Mircea, **Avrigean E.**, s.a. (2016): Determining the temperature field at welding the polyethylene sockets. 2016 Revista de Chimie – Revista Materiale Plastice, Vol. 53, Nr. 4 - 2016, Bucuresti, Romania, 2016. <http://www.revistadechimie.ro/> factor impact 0,289 si SRI 0,183.
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31. **Avrigean E.**, Oleksik Mihaela Emilia. Determining the Forces in the Polyethylene Pipes after Squeezing them off with Specific Equipment. ISSN: 2352-5401. 2015 International Conference on Advanced Materials and Construction Engineering, September 26-27, 2015, Changsha, China .
32. **Avrigean E.**, Oleksik Valentin Stefan, Pascu Adrian Marius. Experimentally Testing the Polyethylene Pipes upon Being Strained with the Squeeze-Off Tool. ISSN: 2352-5401, 2015 . International Conference on Sustainable Energy and Environmental Engineering (SEEE2015). October 25-26, 2015, Bangkok, Thailand.

33. **Avrigean E.**, Oleksik, V. Pascu, A. Experimental Determining of Mechanical and Elastic Characteristics for the Material used in the Manufacturing of Cardan Crosses, ISSN 978-0-00001-840-3\_2440. IManE 2014 International Conference Fee “Beyond the limits of EU” 29-30 mai 2014, Chisinau, Republica Moldova.
34. **Avrigean E.** Verifying the deformations of cardan crosses using the tensometric method. ISSN 1338-7871. EIIC 2014 3<sup>rd</sup> Electronic International Interdisciplinary Conference 2014. 1-4 sept 2014, Slovakia.
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36. **Avrigean E.** Comparative Study of the Loads Acting on the Operating Cardanic Transmission in the Closed and Open Loop Configurations 10.4028/www.scientific.net/AMM.744-746.17. 4th International Conference on Civil Engineering and Transportation ICCET 2014. 2014, December 24-25, Xiamen, China.
37. **Avrigean E.** Veryfing the strength on the cardan transmision joint through the finite element method (ISSN: 1022-6680) 10.4028/www.scientific.net/AMM.749-751.86. International Conference on Civil, Materials and Computing Engineering ICCMC 2014. Taiwan, December 6-7, 2014.
38. **Avrigean E.** Study of the cardan cross using experimental and analytical method. The jubilee 25th DAAAM Symposium 2014. Viena, Austria, November 26-29, 2014.
39. **Avrigean E., Stetiu Mircea.** Theoretical and experimental model for the analysis of a cardan cross. 2rd International Conference on Structural Engineering, Vibration and Aerospace Engineering (SEVAE 2014). Shenzhen - China, November 15-16, 2014.
40. **Avrigean E.** Static and Dynamic Comparative Study on the Cardanic Transmission. The 4<sup>th</sup> International Conference on Energy, Environment and Sustainable Development - EESD 2014. Nanjing - China, Octomber 25-26, 2014.
41. **Avrigean E., Oleksik Valentin, Pascu Adrian.** Experimental Determining of Mechanical and Elastic Characteristics for the Material used in the Manufacturing of Cardan Crosses. ISSN 978-0-00001-840-3\_2440 , 10.4028/www.scientific.net/AMM.657.427. Innovative Manufacturing Engineering Conference IManE 2014. Pag. 427 – 431. 29-30 mai 2014, Chisinau, Republica Moldova.
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52. **Avrigean E.** Proiectarea constructiva a pieselor. Model pentru determinarea tensiunilor si deformatiilor în piese cu ajutorul MEF. ISBN: 973-8247-92-6 . Conferinta internationala INGINERIE INTEGRATA C2I 2002 . Pg. 27-28 +CD-ROM . Timisoara, 25-26 aprilie 2002.
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55. **Avrigean E.** Modelling of the element of the cardanic transmission : the cardan joint. Form optimization on the basis of the stress and strain. (Modelarea elementului transmisiei cardanice – furca cu gât. Optimizarea formei pe baza tensiunilor si deformatiilor. ISSN1011-2855 . A VI-a Conferinta internationala Tehnologii moderne, calitate, restructurare „T.M.C.R. – 2002” . Pag. 289-292 . Iasi, 23-25 mai 2002 .

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59. Dârzu V., **Avrigean E.** Studii si cercetari privind solicitariile si tensiunile din arborii transmisiilor cardanice tipizate ISBN 9975-9638-4-6 . Conferinta internationala de comunicari stiintifice IA S I - CHSINAU, TMCR' 2001 . Pag. 52-55 . Chisinau, 24-26 mai 2001.
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64. Duse, D. M. **Avrigean E.** Research concerning the shape and dimensional optimization of the cardanic transmission (Cercetari privind optimizarea formei si dimensiunilor arborelui transmisiei cardanice) ISBN 973-85354-1-7 . Ananals of MTeM for 2001& of the 5 th international MTeM symposium, 4 th -6 th october 2001 . Pag. 191-194 . Cluj-Napoca, 04-06 octombrie 2001 .
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**C. Articole studii publicate în volumele conferințelor internaționale desfășurate în țară sau străinătate (cu ISSN sau ISBN)**

1. **Avrigean E.** Study on Temperature Distribution in the Jointing Fittings for Polyethylene Natural Gas Pipes . Conferinta Post-doctorala din 5-6 iunie 2015, Universitatea Lucian Blaga din Sibiu. Acta Universitatis Cibiniensis, Technical Series, Volumes XV. ISSN 1583 – 7149. Sibiu, 5-6 iunie 2015.
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#### **D. Granturi/proiecte câștigate prin competiție si contracte**

- **proiecte în cadrul unor programe de cercetare naționale;**
  1. „Cercetari privind realizarea unui sistem expert pentru instruirea în managementul calitatii. Adaptarea sistemului expert existent la cerintele standardului ISO 9000:2000 si integrarea de documente model si studii de caz” Nr. 6229/2001, tema B7 . ANSTI . **Coautor.** 195 mil. lei.
  2. "Cercetări privind implementarea tehnologiei de prelucrare prin eroziune electric a cu rupere de contact (EERC)" în cadrul fazei intitulat a "Cercetări privind stabilirea prelucrabilității materialelor prin procedeul EERC" . 1/1999, nr. 1309, cod program: A 11.1.2. ANSTI . **Coautor.** 125 mil. lei
- **proiecte pe bază de contract/granturi internaționale;**
  1. “Digital Factory: concepts, Implementations, Presents and Future Challenges” – Programul “Fondul de Burse” – RO 15 – finantat prin Mecanismul Financiar SEE 2009 – 2014 – Masura de proiecte de cooperare runda 2014. Agentia Nationala pentru Programe Comunitare in Domeniul Educatiei si Formarii Profesionale. **Director proiect.** 52.785 euro.
- **proiecte de cercetare pe bază de contracte naționale;**
  1. Studiu asupra comportarii fittingurilor si tevilor de polietilena sub actiunea factorilor externi. Nr. 3107 / 2021. SC SIFEE ACTION SRL, cu sediul în Selimbar, str. Dn1 km 303 +454 c. **Coautor** 20.000 lei.
  2. Studii si cercetari asupra identificarii problemelor aparute in timpul sudarii prin electrofuziune si exploatarea fittingurilor de polietilena din domeniul retelelor de distributie gaze naturale. SC Instalsib Gaz Proiect. **Coautor.** 10.500 lei.
  3. Dispozitiv pentru testarea automata a conectorilor modulari. Nr. 5705/2018. SC Odu Romania Manufacturing. **Coautor.** 34.500 lei

4. Realizarea de cercetari privind optimizarea parametrilor procesului de solicitare mecanica a ansamblurilor sudate de tevi si fittinguri de polietilena de inalta densitate. Nr. 2969/2015. Proconfort. **Coautor**. 11.500 lei.
5. Studii teoretice si experimentale asupra comportarii mecanice a ansamblurilor sudate de tevi si fittinguri din polietilena de inalta densitate **1**. Nr. 1669/2014 . SC Fusion Romania SRL. **Director contract** . 10.400 lei.
6. Studii teoretice si experimentale asupra comportarii mecanice a ansamblurilor sudate de tevi si fittinguri din polietilena de inalta densitate **2**. Nr. 2238/2014 . SC Eon Gaz Distributie SRL. **Director contract** . 10.625 lei.
7. Studii teoretice si experimentale asupra comportarii mecanice a ansamblurilor sudate de tevi si fittinguri din polietilena de inalta densitate **3**. Nr. 1964/2014 . SC Proconfort SRL. **Director contract** . 12.180 lei.
8. Studiu asupra stărilor de tensiuni si deformații din elementele componente ale transmisiei cardanice cu ajutorul metodelor tensometrice . Nr. 2541/2004. SC Compa SA Sibiu . **Director contract** . 7 mil lei .
9. Studiul starii de tensiune si deformatie la sapa de foraj cu role conice si la reductia dezaxata de la sonda de foraj directional. Nr. 2605/2002 . SNTGN DAFORA S.A. Medias . **Coautor**. 100 mil lei
10. Solutii constructive pentru compensarea supraînaltarii conductei DN 1200 la subtraversarea pârâului Taita. Nr. 27/2002 . SNTGN TRANSGAZ S.A. Medias . **Coautor**. 50 mil lei .
11. Studiul deformatiilor, eforturilor si a tensiunilor la conducta de transport gaz metan din zona traversarii pârâului Taita. Nr. 86/2001 . SNTGN TRANSGAZ S.A. Medias. **Coautor**. 41 mil. lei .

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Semnătura:

