

Radovi objavljeni u indeksiranim časopisima (peer-reviewed članci)

1. P. Cardiff, A.Karač, D. FitzPatrick, R. Flavin and A. Ivanković, *Development of Mapped Hill-Type Muscle Boundary Conditions for Finite Volume Simulations of the Hip Joint*, International journal for numerical methods in biomedical engineering, 30 (9), p.890-908, 2014.
2. P. Cardiff, A. Karac, A. Ivankovic, *A Large Strain Finite Volume Method for Orthotropic Bodies with General Material Orientation*, Computer Methods in Applied Mechanics and Engineering, 268, p.318-335, 2014.
3. P. Cardiff, A. Karac, D. FitzPatrick, R. Flavin, A. Ivankovic, *Development of a Hip Joint Model for Finite Volume Simulations*, Journal of Biomechanical Engineering, 136(1), 011006-1-8, 2014.
4. Žiga A., Karač A., Vukojević D., *Analytical and Numerical Stress Analysis of The Rotary Kiln Ring*, Tehničkivjesnik, 20(6), 941-946, 2013.
5. Ž. Tuković, A. Ivanković, A. Karač, *Finite volume stress analysis in multi-material linear elastic body*, International journal for numerical methods in engineering, 93:400-419, 2013.
6. V. Cooper, A. Ivankovic, A. Karac, D. McAuliffe and N. Murphy, *Effects of bond gap thickness on the fracture of nano-toughened epoxy adhesive joints*, Polymer, 53(24): 5540-5553, 2012.
7. M. Leonard, N. Murphy, A. Karač, A. Ivanković, *A Numerical Investigation of Spherical Void Growth in an Elastic-Plastic Continuum*, Computational Materials Science, 64:38-40, 2012.
8. P.Cardif, A.Karač, A.Ivanković, *Development of a Finite Volume Contact Solver Based on the Penalty Method*, Computational Materials Science, 64, p.283-284, 2012.
9. J. Mohan, A. Karač, Neal Murphy, AlojzIvanković, *An Experimental and Numerical Investigation of the Mixed-Mode Fracture Toughness and Lap Shear Strength of Aerospace Grade Composite Joints*, Key Engineering Materials: Advances in Fracture and Damage Mechanics X, 488-489: 549-552, 2012.
10. D. McAuliffe, A. Karač, Neal Murphy, AlojzIvanković, *Characterisation of the Fracture Energy and Toughening Mechanisms of a Nano-Toughened Epoxy Adhesive*, Key Engineering Materials: Advances in Fracture and Damage Mechanics X, 488-489: 573-576, 2012.
11. Karac, A., Blackman, B. R. K., Cooper, V. , Kinloch, A. J. , Rodriguez Sanchez, S. , Teo, W. S., Ivankovic, A. , *Modelling the fracture behaviour of adhesively-bonded joints as a function of test rate*, Engineering Fracture Mechanics, 78: 973-989, 2011.
12. A. Tabaković, A. Karač, A. Ivanković, A. Gibney, C. McNally, M.D. Gilchrist, *Modelling the quasi-static behaviour of bituminous material using a cohesive zone model*, Engineering Fracture Mechanics, 77: 2403-2418, 2010.
13. V. Kanyanta, A. Ivankovic, A.Karac, *Validation of a fluid-structure interaction numerical model for predicting flow transients in arteries*, Journal of Biomechanics, 42(11):1705-1712, 2009.
14. A. Karac, A. Ivankovic. *Investigating the behaviour of fluid-filled polyethylene containers under base drop impact: a combined experimental/numerical approach*. International Journal of Impact Engineering, 36(4): 621-631, 2009.
15. H. Parsa, A. Ivankovic, A. Karac. *Mechanical Properties Of Surrogate Lung Material Under Compression*. Journal of Biomechanics, 41(1): S353, 2008.
16. O. Alakija, A. Ivankovic, A. Karac, *Finite volume solution to high rate wave propagation through a lung alveoli stack*, Solid Mechanics and Its Applications, 124:281-288, 2005.
17. A. Karac and A. Ivankovic. *Modelling the Drop Impact Behaviour of Fluid-Filled Polyethylene Containers*. Fracture of Polymers, Composites and Adhesives II, Editors: B.R.K. Blackman, A. Pavan and J.G. Williams,ESIS publication 32, 253-264, 2003.
18. A. Ivankovic, A. Karac, E. Dendrinis, and K. Parker. *Towards Early Diagnosis of Atherosclerosis: The Finite Volume Method for Fluid-Structure Interaction*.Biorheology, 39:401-407, 2002.

Radovi objavljeni u časopisima

1. D. Dujak, A. Karač, Z.M. Jakšić, D. Vasiljević, S. Vrhovac, *Detecting a Structure in Two Dimensions Combining the Voronoï Tessellation and a Shape Factor*, Scientific Technical Review, 64 (1):13-20, 2014.

Radovi objavljeni u Zbornicima i prezentovani na konferencijama

1. B. Zafošnik, M. Trako, I. Ciglarič, A.Karač, *Modelling of Cartilage Soft Tissue Indentation*, CMBBE 2014, 12th International Symposium: Computer Methods in Biomechanics and Biomedical Engineering, Amsterdam, 2014.
2. P. Cardiff, A. Z. Tukovic, A. Karac, A. Ivankovic, *Nonlinear solid mechanics in OpenFOAM*, 9thOpenFOAM Workshop, Zagreb, Croatia, 2014.
3. P. Cardiff, Z. Tukovic, A. Karac, H. Jasak, A. Ivankovic, *OpenFOAM library for Fluid-Structure Interaction*, 9th OpenFOAM Workshop, Zagreb, Croatia, 2014.

4. J. Kacmarcik, A. Karac, *Mode-mixity in numerical simulation of FRMM test: local partitioning using cohesive zone*, 18th International Research/Expert Conference TMT, Budapest, 2014.
5. J. Kacmarcik, A. Karac, *Global and local partitioning of energy release rates in FEM simulation of FRMM test using cohesive zone*, 10THscientific/research symposium with international participation, „Metallic and nonmetallic materials“, Bugojno, B&H, 2014.
6. D. Dujak, I. Lončarević, L.J. Budinski-Petković, A. Karac, S.B. Vrhovac, *Reversible random sequential adsorption of polydisperse mixtures on a triangular lattice*, YUCOMAT 2014, Herceg-Novi, Crna Gora, 2014.
7. Cardiff P., Karac A., Tukovic Z., Ivankovic A., *An open-source finite volume method for computational solid mechanics*, In proceeding of: Joint Symposium of Irish Mechanics Society and Irish Society for Scientific and Engineering Computation, At University College Dublin, Ireland, 2013.
8. Q. Dong, D. McAuliffe, A. Karac, N. Murphy & A. Ivankovic, *The Toughening Mechanisms of an Epoxy Adhesive Containing Core-Shell Rubber Particles*, 12th International Conference on the Science and Technology of Adhesion and Adhesives, York, UK, 4-6 September 2013.
9. M. Conroy, A. Ivankovic, A. Karac, N. Murphy, J.G Williams, *Numerical Analysis of mode mixity in Beam Like Geometries using cohesive zones*, 12th International Conference on the Science and Technology of Adhesion and Adhesives, York, UK, 4-6 September 2013.
10. M. Conroy, A. Ivankovic, A. Karac, J.G. Williams, *Mode-Mixity In Beam-Like Geometries: Global Partitioning with Cohesive Zones*, 36th Annual Meeting of The Adhesion Society, Hilton Daytona Beach, Daytona, FL, USA, 2013.
11. A. Karac, D. McAuliffe, N. Murphy, A. Ivankovic, *The Fracture Behaviour of Nano-modified Structural Epoxy Adhesive*, 36th Annual Meeting of The Adhesion Society, Hilton Daytona Beach, Daytona, FL, USA, 2013.
12. Kinloch, A. J. , Karac, A., Blackman, B. R. K., Cooper, V. , Rodriguez Sanchez, S. , Teo, W. S., Ivankovic, A. , *Modelling the fracture behaviour of adhesively-bonded joints as a function of test rate*, 36th Annual Meeting of The Adhesion Society, Hilton Daytona Beach, Daytona, FL, USA, 2013.
13. B. R. K. Blackman, M. Conroy, A. Ivankovic, A. Karac, A. J. Kinloch, J.G. Williams, *Mode-Mixity In Beam-Like Geometries: Linear Elastic Cases And Local Partitioning*, ECCM15 – 15th European Conference on Composite Materials, Venice, Italy, 2012.
14. H. Parsa, A. Ivankovic, A. Karac. *Surrogate lung material for impact studies: Development and testing*. U Zborniku 2012 IRCOBI Conference Proceedings - International Research Council on the Biomechanics of Injury, 662-671, 2012.
15. M. Leonard, A. Ivankovic, N. Murphy, A. Karac, *Micro-Mechanical Modeling of Particle-Matrix Interactions in Nano-Toughened Adhesives*, 7thOpenFOAMWorkshop, Technische Universität Darmstadt, Germany, 2012.
16. P. Cardiff, A. Karac, Z. Tukovic, A. Ivankovic, *Development of a Finite Volume Based Structural Solver for Large Rotation of Non-Orthogonal Meshes*, 7thOpenFOAMWorkshop, Technische Universität Darmstadt, Germany, 2012.
17. D. McAuliffe, A. Karac, N. Murphy, A. Ivankovic, *Determination of the Cohesive Strength and Toughening Mechanisms of a Nano-Modified Adhesive under a Triaxial Stress State*, 35th Annual Meeting of The Adhesion Society, Astor Crowne, New Orleans, LA, USA, 2012.
18. M. Leonard, D. McAuliffe, A. Karac, A. Ivankovic, N. Murphy, *Micro-Mechanical Modelling of Void Growth and Damage Evolution of Nano-Toughened Structural Adhesion Using the Finite Volume Method*, 35th Annual Meeting of The Adhesion Society, Astor Crowne, New Orleans, LA, USA, 2012.
19. Dijana Dujak, Aleksandar Karač, Slobodan Vrhovac, *Effects of the inelasticity of granules and the density of granular systems on the cooling process*, The 43rd International October Conference on Mining and Metallurgy, 12-15 October, Kladovo, Serbia, 2011.
20. Dijana Dujak, Aleksandar Karač, Slobodan Vrhovac, *The influence of the coefficient of restitution on deviation from the Haff's law for granular materials*, The 43rd International October Conference on Mining and Metallurgy, 12-15 October, Kladovo, Serbia, 2011.
21. D. McAuliffe, A. Karač, N. Murphy & A. Ivanković, *Transferability of Fracture Properties between Peel and TDCB Tests for a Nano-Toughened Epoxy Adhesive*, 6th International Conference on Fracture of Polymers, Composites and Adhesives, September 11-15, Les Diablerets, Switzerland, 2011.
22. Cardiff P, Ivankovic, A, FitzPatrick, D, Flavin, R, Karac, A. *Development of a Finite Volume Methodology for Linear Elastic Contact Problems*. Proceedings of the IWCMM, Limerick, Ireland. 2011.
23. J. Mohan, A. Karač, N. Murphy & A. Ivanković, *Mode I fatigue crack propagation in peel ply prepared composite joints*, 6th International Conference on Fracture of Polymers, Composites and Adhesives, September 11-15, Les Diablerets, Switzerland, 2011.
24. D. McAuliffe, A. Karač, N. Murphy & A. Ivanković. *Fracture of Nano-Toughened Epoxies*. Proceedings of the Irish Adhesion and Surface Coating Conference 2011, Institute of Technology Tallaght, September 1, 2011, Dublin, Ireland.
25. D. McAuliffe, A. Karač, N. Murphy & A. Ivanković, *The Fracture Energy and Toughening Mechanisms of Adhesive Joints Bonded with a Nano-Toughened Epoxy*, 11th Triennial International Conference on the Science and Technology of Adhesion and Adhesives, York, UK, 2011.

26. D. McAuliffe, A. Karač, N. Murphy and A. Ivanković, *Characterisation of the Fracture Energy and Toughening Mechanisms of a Nano-toughened Epoxy Adhesive*, 10th International Conference on Fracture and Damage Mechanics, Dubrovnik, 2011.
27. J. Mohan, A. Karač, Neal Murphy, Alojz Ivanković, *An Experimental and Numerical Investigation of the Mixed-Mode Fracture Toughness and Lap Shear Strength of Aerospace Grade Composite Joints*, 10th International Conference on Fracture and Damage Mechanics, Dubrovnik, 2011.
28. M. Leonard, A. Ivankovic, N. Murphy, A. Karac, *Micro-Mechanical Modeling of Nano-Toughened Adhesives*, 6th OpenFOAM Workshop PennState University, USA, 2011.
29. P. Cardif, A. Ivankovic, R. Flavin, D. FitzPatrick, A. Karac, *Numerical Analysis of The Hip Joint Bones in Contact*, 19th UK Conference of the Association for Computational Mechanics in Engineering, Heriot-Watt University, Edinburgh, 2011.
30. D. Spahić, P. Cardiff, R. Flavin, A. Karač, *Using Magnetic Resonance Images to Create 3D Models of Bones for Subsequent Numerical Analysis*, U Zborniku 15th International Research/Expert Conference TMT, Prague, 2011.
31. P. Cardif, A. Ivankovic, R. Flavin, D. FitzPatrick, A. Karac, *The contact stress analysis in OpenFOAM: Application to hip joint bones*, 6th OpenFOAM Workshop PennState University, USA, 2011.
32. J. Mohan, A. Karač, N. Murphy, A. Ivanković, *An Experimental and Numerical Investigation of the Mixed-Mode Fracture Toughness and Lap Shear Strength of Aerospace Grade Composite Joints*, Proceedings of the 34th Annual Meeting of The Adhesion Society, Inc. Savannah, GA, USA, 2011.
33. A. Ivankovic, A. Karac, B. R. K. Blackman, V. Cooper, A. J. Kinloch, S. Rodriguez Sanchez and W. S. Teo, *Modelling the Fracture Behaviour of Adhesively-Bonded Joints as a Function of Test Rate - A Rate Dependent C_{zm} Is Required to Predict the Full Range of Behaviour*, 34th Annual Meeting of The Adhesion Society, Inc. Savannah, GA, USA, 2011.
34. D. McAuliffe, A. Karac, N. Murphy, A. Ivankovic, *Transferability of Adhesive Fracture Toughness Measurements between Peel and TDCB Test Methods for a Nano-Toughened Epoxy*, 34th Annual Meeting of The Adhesion Society, Inc. Savannah, GA, USA, 2011.
35. P. Cardif, A. Ivankovic, R. Flavin, D. FitzPatrick, A. Karac, *The Development of a Numerical Model for the Hip Joint*, Bioengineering in Ireland 17, Galway, Republic of Ireland, 2011.
36. V. Cooper, A. Ivankovic, A. Karac, D. McAuliffe, N. Murphy and Z. Tukovic, *The Bond Gap Thickness Effects on the Fracture Toughness of Nano-Toughened Structural Epoxy Adhesives*, Proceedings of the 33rd Annual Meeting of The Adhesion Society, Inc. Daytona, USA, 2010.
37. D. Spahić, A. Karač, *Using Magnetic Resonance Images to Create 3D Models of Bones for Subsequent Numerical Analysis*, U Zborniku 13th International Research/Expert Conference TMT, Hammamet, Tunisia, 2009.
38. J. Kišija, J. Kačmarčik, A. Karač, *Determination of Stress Concentration Factors via Numerical Methods: Bar of Circular Cross Section with U-shaped Groove Subjected to Tension and Bending*, U Zborniku 13th International Research/Expert Conference TMT, Hammamet, Tunisia, 2009.
39. H. Parsa, A. Ivankovic, A. Karac, *Mechanical Properties of Fluid-Filled Gelatine Microcapsules*, U Zborniku 6th International Congress of Croatian Society of Mechanics, Dubrovnik, Croatia 2009.
40. H. Parsa, A. Ivankovic, A. Karac, *Characterisation Of A Surrogate Lung Material Made Of Polyurethane Foam And Fluid-Filled Gelatine Microcapsules*, U Zborniku 1st International Conference on Mathematical and Computational Biomedical Engineering – CMBE2009, Swansea, 2009.
41. V. Kanyanta, A. Ivankovic, A. Karac, *Accurate prediction of blood flow transients: a fluid-structure interaction approach*, U Zborniku 1st International Conference on Mathematical and Computational Biomedical Engineering – CMBE2009, Swansea, 2009.
42. V. Cooper, A. Ivankovic, A. Karac, D. McAuliffe, N. Murphy, Z. Tukovic. *The Effect of Constraint on the Fracture Toughness of Adhesively Bonded Joints*. U Zborniku 32nd Annual Meeting of the Adhesion Society, Savannah, Georgia, USA, 2009.
43. H. Parsa, A. Ivankovic, A. Karac. *Mechanical Characterisation of Fluid-Filled Gelatine Microcapsules*. U Zborniku Bioengineering in Ireland 15, Limerick, Republic of Ireland, 2009.
44. Kanyanta, V., Quinn, N., Kelly, S., Ivankovic, A. and Karac, A., *Fluid-Structure Interaction in Bioengineering II*. 3rd OpenFOAM Workshop, Milan, Italy 10-11 July 2008.
45. V. Cooper, A. Ivankovic, and A. Karac. *An experimental and numerical investigation into the effect of bond thickness and width on the fracture toughness, GIC, of adhesively bonded joints*. U Zborniku 5th International Conference on the Fracture of Polymers, Composites and Adhesives, Switzerland, 2008.
46. V. Cooper, A. Ivankovic, A. Karac. *A mode I fracture behaviour analysis of adhesively bonded joints*. U Zborniku 17th European Conference on Fracture, Brno, Czech Republic Republika, 2008.
47. A. Ziga, A. Karac. D. Vukojevic. *The Contact Stresses between Cement Kiln Tyre and Supporting Rollers*. U Zborniku 12th International Research/Expert Conference TMT, Istanbul, Turska, 2008.
48. A. Safari, A. Ivankovic, A. Karac, M. Walter, E. Casey. *A two phase flow model of biofilm detachment*. U Zborniku 31st Annual Meeting of the Adhesion Society, Austin, Texas, 2008.

49. V. Cooper, A. Ivankovic, A. Karac. *Study of bond thickness effects on the mode I fracture toughness of adhesively bonded joints*. U Zborniku 31st Annual Meeting of the Adhesion Society, Austin, Texas, 2008.
50. Kanyanta, V., Ivankovic, A. and Karac, A., 2008. *Towards Early Diagnosis of Atherosclerosis – Role of Wall Shear Stress*. Bioengineering in Ireland, 14th Annual Conference Proceedings, Radisson SAS Hotel, Sligo, 25th and 26th January, 2008.
51. H. Parsa, A. Ivankovic, A. Karac. *Development of Surrogate Lung for Predicting Blunt Trauma*. U Zborniku Bioengineering in Ireland 14, Sligo, Northern Ireland, 2008.
52. Kanyanta, V., Quinn, N., Kelly, S., Ivankovic, A. and Karac, A., “*Fluid-Structure Interaction (FSI) in Bioengineering*”, 2nd OpenFOAM Workshop, Zagreb, Croatia, 2007.
53. V. Kanyanta, A. Ivankovic, A. Karac, *Towards Early Diagnosis of Atherosclerosis – Effect of a Flexible Structure on Shear Stress Analysis*, U Zborniku Bioengineering in Ireland 13, Co. Fermanagh, 2007.
54. V. Kanyanta, A. Ivankovic, A. Karac, *Fluid-structure interaction approach in hemodynamic wall shear stress analysis*, U Zborniku Fifth IASTED International Conference on Biomechanics, Honolulu, HI, USA, 2007.
55. N. Quinn, A. Ivankovic, A. Karac, *A Combined Experimental and Numerical Investigation into Early Atherosclerosis*, 15th ACME Conference on Computational Mechanics in Engineering, Glasgow, 2007.
56. N. Quinn, A. Ivankovic, A. Karac, *A numerical investigation into the deformation profiles of mock arteries*, U Zborniku ASME Summer Bioengineering Conference, Keystone, CO, USA, 2007.
57. N. Quinn, A. Ivankovic, A. Karac, *An Experimental and Numerical Investigation into Early Atherosclerosis*, U Zborniku Bioengineering in Ireland 13, Co. Fermanagh, 2007.
58. V. Cooper, A. Ivankovic, A. Karac, W. Brocks, *Fracture Behaviour Of Adhesively Bonded Joints Tapered Double Cantilever Beam (TDCB) Tests*, U Zborniku 6th International Conference on Fracture and Damage Mechanics (FDM07), Madeira, Portugal, 2007.
59. N. Quinn, A. Ivankovic, A. Karac, *Towards early diagnosis of Atherosclerosis – advanced study*, U Zborniku Bioengineering in Ireland 12, Galway, 2006.
60. V. Cooper, A. Ivankovic, A. Karac, A.J. Kinloch, S. Rodriguez Sanchez, W.S. Teo, *Stick-Slip Crack Propagation in Adhesively Bonded Joints*, 7th World Congress on Computational Mechanics, Los Angeles, 2006.
61. Quinn, N., Ivankovic, A. and Karac, A., “An investigation into Atherosclerosis using fluid structure interaction”, Proc ACME/ISSEC 2006, pp 207-210, Belfast. 2006.
62. N. Quinn, A. Ivankovic, A. Karac, *An investigation into atherosclerosis using the fluid-structure interaction technique*, U Zborniku ICSM5, Trogir, 2006.
63. N. Quinn, A. Ivankovic, A. Karac, *A numerical investigation into atherosclerosis examining the deformation profiles in healthy and diseased mock arteries*, U Zborniku BIO2006 – 2006 Summer Bioengineering Conference Amelia Island, Florida, 2006.
64. O. Alakija, A. Ivankovic, A. Karac, *Finite volume solution to high rate wave propagation through a lung alveoli stack*, U Zborniku IUTAM Symposium on Impact Biomechanics, Dublin, 2005.
65. N. Quinn, A. Ivankovic, A. Karac, *Towards early diagnosis of Atherosclerosis*, U Zborniku Bioengineering in Ireland 11, Killiney, 2005.
66. A. Karac, A. Ivankovic, *Modelling drop impact and fracture of fluid-filled plastic containers*. U Zborniku The 15th European Conference on Fracture – Advanced Fracture Mechanics for Life and Safety Assessments, Stockholm, 2004.
67. A. Karac, A. Ivankovic. *Fully Predictive Model of the Drop Impact and Fracture of Fluid-Filled Plastic Containers*. U Zborniku 11th ACME Conference on Computational Mechanics in Engineering, Glasgow, 2003.
68. A. Karac, A. Ivankovic. *Experimental and Numerical Investigation of the Drop Impact of Fluid-Filled Containers*. U Zborniku 6th International Research/Expert Conference TMT, Neum (Bosnia and Herzegovina), 2002.
69. Karac, A. and Ivankovic, A., *Modelling the Drop Impact Behaviour of Fluid-Filled Polyethylene Containers*, Proc. 3rd ESIS TC4 Conference on Polymers and Composites, Les Diablerets, Switzerland, 2002.
70. A. Karac, A. Ivankovic. *Drop Impact of Fluid-Filled Plastic Containers: The Finite Volume Method for Coupled Fluid-Structure-Fracture Problems*. U Zborniku WCCM V, Fifth World Congress on Computational Mechanics, Vienna, 2002.
71. A. Ivankovic, H. Jasak, A. Karac, V. Tropsa. *Prediction of Dynamic Fracture in Pressurised Plastic Pipes*. U Zborniku 10th ACME Conference on Computational Mechanics in Engineering, Swansea, 2002.
72. A. Ivankovic, A. Karac, E. Dendrinis. *Blood Flow in Deformable Arteries: The Finite Volume Method for Fluid-Structure Interaction*. U Zborniku ECCOMAS Computational Fluid Dynamics Conference, Swansea, 2001.
73. A. Ivankovic, A. Karac, E. Dendrinis. *Blood Flow in Deformable Arteries: The Finite Volume Method for Coupled Fluid-structure Interaction Problems*. U Zborniku 9th ACME Conference on Computational Mechanics in Engineering, Birmingham, 2001.
74. A. Karac, A. Ivankovic. *Modelling the Drop Impact of Fluid-filled Plastic Containers*. U Zborniku Int. Conf. on Computational Engineering Sciences ICES 2K, LA, USA, 2000.
75. A. Karac, C.J. Greenshields, A. Ivankovic. *Behaviour of Fluid-filled Containers Under Drop Impact*. U Zborniku 8th ACME Conference on Computational Mechanics in Engineering, Greenwich, 2000.

Knjige, monografije, udžbenici, skripte, predavanja

1. A. Karač, *Zbirka riješenih ispitnih zadataka iz Otpornosti materijala*, Mašinski fakultet, Univerzitet u Zenici, 2014. (ISBN 978-9958-639-64-7)– udžbenik-zbirka
2. A. Karac, *Drop Impact Resistance of Fluid-Filled Plastic Containers: Combined experimental-numerical investigation*, LAP Lamber Academic Publishing, 2011. (ISBN: 978-3-8433-8692-0) - monografija
3. A. Karač, *Proceduralno programiranje*, Pedagoški Fakultet, Univerzitet u Zenici, 2007. - skripta
4. A. Karač, *Numeričke metode u inženjerstvu*, Mašinski fakultet, Univerzitet u Zenici, 2009. - skripta

Pored gore navedenih naslova, na raspolaganju su i predavanja za pojedine kurseve – u elektronskoj formi:

5. A. Karač, *Otpornostmaterijala I*, 2012. –
6. A. Karač, *Otpornostmaterijala II* – 2012. –

Predavanja, seminari

1. *From Plastic Pipes and Bottles to Bioengineering Applications: Fluid-Structure Interaction Procedures for Flexible Systems*, Fakultet strojarstva i brodogradnje, Zagreb, 2007.
2. *Fluid-solid interaction simulations with OpenFOAM*, Fakultet strojarstva i brodogradnje, Zagreb, 2006.
3. *Određivanje otpornosti plastičnih cijevi na RCP (rapid crack propagation)*, Mašinski fakultet u Zenici, 2004.
4. *Eksperimentalna i numerička analiza ponašanja plastičnih boca pri udarnim opterećenjima*, Mašinski fakultet u Zenici, 2003.
5. *Resistance of Fluid-filled Containers to Drop Impact*, Imperial College London, 2001.

Učešće u projektima, stručne studije, elaborati

Projekti

1. *Numeričko modeliranje i analiza kompaktifikacije granularnih sistema*, Federalno Ministarstvo Obrazovanja i Nauke Bosne i Hercegovine, 2014-
2. *Science and Engineering of Advanced Composites*, University College Dublin, 2009 – 2011.
3. *Trodimenzionalno modeliranje kostiju upotrebom MRI i CT snimaka: Numerička analiza kontakta između kostiju*, Federalno Ministarstvo Obrazovanja i Nauke Bosne i Hercegovine, 2009-2010.
4. *Towards better understanding of foot disorders through finite volume analysis*, University College Dublin & Cappagh National Orthopaedic Hospital (CNOH), Ireland, 2008-2010.
5. *Course Development Program CDP+: Applicative software, Programming for Internet, Procedural programming*, WUS Austrija, 2006.
6. *Characterisation of Traction-Separation Laws in Structural Adhesives*, University College Dublin, 2005-2008.
7. *Towards better understanding and predicting blast trauma to human lungs: combined experimental-numerical study*, University College Dublin, postdoktorski projekat, 2007-2010.
8. *Towards Early Diagnosis of Atherosclerosis: A novel Combined Numerical/Experimental Investigation*, University College Dublin, postdoktorski projekat, 2004-2007.

Studije

1. *Numerička simulacija procesa tvrdog lemljenja aluminijuma*, HydroAl, Norveška, 2005.
2. *Modeliranje unutrašnjih organa (pluća) na udarna opterećenja*, Imperial College London, 2004.
3. *Modeliranje plastičnih materijala za izradu cijevi u Roll-down procesu*, Imperial College London, 2004.
4. *“Overboring” drill tube design*, UPONOR, UK, 2001.
5. *Analysis of thermal cycling of the large bowl 871*, Du Pont, USA, 2000.

Elaborati

1. *Izrada elaborata za osnivanje Građevinskog odsjeka na Mašinskom fakultetu Univerziteta u Zenici*, Univerzitet u Zenici, 2008.

Mentorstva/komentorstva

Doktoranti

1. Dijana Dujak, *Utica jspoljašnjih I unutrašnjih sila na evoluciju brzih tokova granularnih materijala*, Prirodno-matematički fakultet, Univerzitet u Sarajevu, 2012-
2. Spahić Denis, *Numerička analiza naponskog stanja prvog metatarzofalangalnog zgloba u procesu kretanja čovjeka*, Mašinski fakultet, Univerzitet u Sarajevu, 2011-
3. Michael Leonard, *Experimental and Numerical Investigation of Traction-Separation Laws in Structural Adhesives*, University College Dublin, 2010-
4. Philip Cardif, *The development of a numerical model of the Hip joint for complex Soft Tissue Reconstructions around the Hip Joint*, University College Dublin, 2008-2011., odbranjena 2012.
5. David McAuliffe, *Experimental and Numerical Investigation of Traction-Separation Laws in Structural Adhesives*, University College Dublin, 2008-2011., odbranjena 2012.
6. Alma Žiga, *Uticaj kontaktnih, promjenljivih naprezanja na izdržljivostnosećih valjaka od čeličnog liva na rotacionim pećima*, Univerzitet u Zenici, Mašinski fakultet, 2009-
7. Hamid Khalili Parsa, *Towards better understanding and predicting blast trauma to human lungs: combined experimental-numerical study*, University College Dublin, 2006-2009., odbranjena 2012.
8. Vincent Cooper, *Characterisation of Traction-Separation Laws in Structural Adhesives*, University College Dublin, 2005-2008., odbranjena 2010.
9. Niamh Quinn, *Towards Early Diagnosis of Atherosclerosis: A Novel Combined Numerical/Experimental Investigation*, University College Dublin, 2004-2007., odbranjena 2011.
10. Valentine Kanyanta, *Towards Early Diagnosis of Atherosclerosis: A Novel Combined Numerical/Experimental Investigation*, University College Dublin, 2004-2007., odbranjena 2007.

Magistranti

1. Muamer Kargić, *Određivanje mehaničkih karakteristika materijala elastičnih lopti testom na pritisak*, 2014-
2. Dijana Dujak, *Numeričke simulacije brzih tokova granularnih materijala*, odbranjena 2010.
3. Spahić Denis, *Izrada 3D modela za numeričku analizu kostiju u kontaktu upotrebom snimaka magnetne rezonancije*, odbranjena 2008.