Listă de lucrări

Cărți și capitole în cărți (selecție)

1. D. Bălă, M. M. Boureanu, L. Bucur, C.P. Dăneț, L. Grecu, F. Munteanu, G. Popescu, M. Racilă, L.E. Temereancă, C. Vladimirescu, Teste grilă pentru proba scrisă la Matematică a examenului de admitere la Licență la Facultatea de Automatică, Calculatoare și Electronică, Ed. Universitaria, Craiova, ISBN 978-606-14-2002-5, pp. 102-126, pp. 294-314 (in romanian), 2024.
2. M. Racilă, Metode numerice pentru studenții automatiști, ISBN: 978-606-14-1629-5, Ed. Universitaria, Craiova, 366 pag (in romanian), 2020.
3. M. Racilă, J.M. Crolet, “Numerical simulations and some applications in cortical bone behavior”, in “Qualitative Study of Differential Equations, Geometrical and Dynamical Aspects of Some Mechanical Systems, Numerical Treatment, and Applications", pp. 73-115, ISBN 978-606-26-0168-3, Editura Universitaria, 2014.
4. M. Predoi, D. Constantinescu, M. Racilă, Teme de Analiză Matematică. Teorie și Aplicații, Editura Universitaria Craiova, 464 pp, ISBN 978-606-510-233-0 (in romanian), 2010.
5. M. Racilă, Os cortical humain: modélisation mathématique et simulation numérique, Ed. Universitaria, Craiova, ISBN : 978-606-510-937-7, 208 pages (in french), 2010.
6. J.M. Crolet, M.C. Stroe, M. Racilă, Rôle de la piézoélectricité du collagène dans la mécanotransduction osseuse. Approche numérique, Bioreconstruction de l’os à la peau, Tome 2, ISBN 978-2-84023-705-1, pp . 43-54, Ed. Sauramp Médical (in french), 2010.
7. M. Racilă, C. Stroe, J.M. Crolet, "SiNuPrOs : Etude de la perméabilité multi échelle de l'os cortical humain", in "Reconstruction osseuse et cutanée: biomécanique et techniques de l'ingénieur", Ed. Sauramp Médical, ISBN : 978-2-84023-583-5, pp 13-24 (in french), 2008.
8. J.M. Crolet, M. Racilă, "SINUPROS, modèle numérique de l'os cortical. Modélisation du fluide et méthode de quantification des champs physiques à diverses échelles", in "Reconstruction osseuse et cutanée:xbiomécaniquexetxtechniquesxdexl'ingénieur", Ed. Sauramp Médical, ISBN : 978-2-84023-583-5, pp 25-46 (in french), 2008.
9. M. Racilă, J.M. Crolet, "Orientation de la minéralisation et propriétés mécaniques de l'os cortical. Une approche numérique", in "Reconstruction osseuse et cutanée: biomécanique et techniques de l'ingénieur", Ed. Sauramp Médical, ISBN : 978-2-84023-583-5, pp 47-56 (in french), 2008.
10. Crolet J. M., M. Racilă, "Un modèle numérique au service de l’orthopédie", Bio ingénierie et reconstruction osseuse, Ed. Sauramps Medical, France, ISBN : 978-2-84023-532-3, pp. 81-105 (in french), 2007.

Lucrări ISI și BDI (selecție)

1. Matei, L., Dumitru, I., Racila, M., Racila, L., Reconfigurable/Foldable Overconstrained Mechanism and Its Application, Appl. Sci., 12, 262, ISSN: 2076-3417, 2022. https://doi.org/10.3390/app12010262
2. Gencarau, N, Oprica, T, Otat, O, Racila, L, Matei, L, Racilă, M, Dumitru, I, Oprica, A, Road traffic analisys in the context of heavy traffic transport removal policy, Acta Technica Napocensis series-Applied Mathematics Mechanics and Engineering, Volume 65, 337-342, 2022.
3. M. Racilă, J.M. Crolet, Fiber orientation of composite materials – effect on mechanical properties, Applied Mechanics and Materials (BDI), vol. 880, ISSN 1662 – 7482, pp. 273 – 278, 2018.
4. L. Ellejmi, A.M. Mancuso, M. Racilă, J.M. Crolet , Numerical simulations in a bony callus, Computer Methods in Biomechanics and Biomedical Engineering, DOI:10.1080/10255842.2014.931134, vol. 17, S1, pp. 70-71, 2014 (ISI). (http://www.tandfonline.com/doi/abs/10.1080/10255842.2014.931134?journalCode=gcmb20#.VGjj_TSsXJc)
5. J.M. Crolet, M. Racilă, A. Marguier and O. Placide, Electro osmosis and bone remodeling – a numerical simulation, International Journal of Biology and Biomedical Engineering, Volume 8, pp. 21-26, ISSN: 1998-4510, 2014 (ISI).
6. M.C. Stroe, J.M. Crolet and M. Racilă, Mechanotransduction in cortical bone and the role of piezoelectricity: a numerical approach, Computer Methods in Biomechanics and Biomedical Engineering, Vol. 16, Issue 2, pp. 119-129, DOI: 10.1080/10255842.2011.608661, ISSN: 1025-5842, 2013 (ISI) (http://dx.doi.org/10.1080/10255842.2011.608661) - CNCS award, CNCS code: PN-II-RU-PRECISI-2012-6-1325.
7. J. M. Crolet, M. Racilă, A. Marguier, O. Placide, Osteosynthesis by electro-osmosis. A numerical simulation, Recent Researches in Medicine, Biology and Bioscience, ISSN: 1790-5125, ISBN: 978-960-474-326-1, pp. 39-44, 2013 (ISI).
8. J. M. Crolet, S. Acciardo, M. Racilă, Simulation of bone ingrowth in non-resorbable substitutes, Computer Methods in Biomechanics and Biomedical Engineering, Vol. 16 Supp. 1, pp. 251-253, DOI: 10.1080/10255842.2013.815925, ISSN: 1025-5842, 2013 (ISI). http://www.tandfonline.com/doi/full/10.1080/10255842.2013.815925#.Um4uRnCOhG0
9. J. M. Crolet, S. Acciardo, M. Racilă, B de Billy, Dissecan osteochondritis of the elbow: a possible explanation with a numerical study, Computer Methods in Biomechanics and Biomedical Engineering, Vol. 16 Supp. 1, pp. 234-236, DOI: 10.1080/10255842.2013.815946, ISSN: 1025-5842, 2013 (ISI).
10. Racilă M., Crolet J.M, Collagen's role in the cortical bone's behavior: a numerical approach, Computer Methods in Biomechanics and Biomedical Engineering, vol. 14, issue 7, pp. 621-631, ISSN: 1025-5842, july 2011 (ISI) (DOI: 10.1080/10255842.2010.493509) (http://www.tandfonline.com/doi/abs/10.1080/10255842.2010.493509) – CNCS award, CNCS code: PN-II-RUPRECISI-2012-6-0444.

11. Racilă M., Crolet J.M, Numerical simulation of thermoablation in living tissues, Computer Methods in Biomechanics and Biomedical Engineering (ISI), vol. 14, S1, pp. 279-281, ISSN: 1025-5842, august 2011, DOI:10.1080/10255842.2011.595244. (http://www.tandfonline.com/doi/abs/10.1080/10255842.2011.595244)
12. M.C. Stroe, Racilă M., Crolet J.M, Quantitative investigation for properties of osteoporotic cortical bone: a numerical study, Computer Methods in Biomechanics and Biomedical Engineering (ISI), vol. 14, S1, pp. 99-101, ISSN: 1025-5842, august 2011, DOI:10.1080/10255842.2011.592375 (http://www.tandfonline.com/doi/abs/10.1080/10255842.2011.592375)
13. Racilă M., Stroe M.C., Crolet J.M., Human cortical bone: the SiNuPrOs model. Part II - a multi-scale study of permeability, Computer Methods in Biomechanics and Biomedical Engineering, ISSN: 1025-5842, Vol. 13, Issue 1, pp. 81-89, 2010 (ISI), (IDS Number: 551PM; DOI: 10.1080/10255840903045037) (PMID:19639487) –CNCS award (code: 572).
14. J. M. Crolet, C. M. Stroe, M. Racilă, Decreasing of mechano transduction process with age, Computer Methods in Biomechanics and Biomedical Engineering, ISSN: 1025-5842, Vol. 13, S 1, pp. 43-45, 2010 (ISI), (IDS Number: 646UE; DOI:10.1080/10255842.2010.491950) 2010 – CNCS award (code: 1065).
15. J.M. Crolet, M. Racilă, "Elaboration of assumptions for the fluid problem at microscopic scale in Sinupros, mathematical model of cortical bone", Mathematical and Computer Modelling, vol. 49, issue 11-12, 2009, ISSN: 0895-7177, pp. 2182-2190 (ISI) (IDS Number: 441CD; DOI: 10.1016/j.mcm.2008.07.027) – CNCS award (code: 1599).
16. M. Racilă and J.M. Crolet, "SiNuPrOs : Mathematical Model of Human Cortical Bone", Recent Advances in Mathematics and Computers in biology and chemistry, ISBN: 978-960-474-062-8, ISSN: 1790-5125, published by WSEAS Press (www.wseas.org), pp. 53-58, march 2009 (ISI) (IDS Number: BJF25).
17. Crolet J.M., Racilă M., Mathematical modelization of fluid flow in osteonal structures, Computer Methods in Biomechanics and Biomedical Engineering, ISSN: 1025-5842, Volume 12, Supplement 1, pp 87-89, 2009 (ISI), (DOI: 10.1080/10255840903077220) – CNCS award (code: 1583).
18. Stroe, C.M., Racilă M., Crolet J. M., Numerical simulation of fluid flow in the cortical part of a human femur, Computer Methods in Biomechanics and Biomedical Engineering, ISSN: 1025-5842, Volume 12, Supplement 1, pp 235-237, 2009 (ISI), (DOI: 10.1080/10255840903094043) – CNCS award (code: 1585).
19. Miladi W., Racilă M., Mathematical model of fluid flow in an osteon. Influence of cardiac system, Computer Methods in Biomechanics and Biomedical Engineering, ISSN: 1025-5842, Volume 12, Supplement 1, pp 187-189, 2009 (ISI), (DOI: 10.1080/10255840903091502) – CNCS award (code: 1584).
20. Racilă M., Crolet J.M., "Human cortical bone : the SINUPROS model. Part I - Description and macroscopic results", Computer Methods in Biomechanics and Biomedical Engineering, ISSN: 1025-5842, Taylor & Francis, Volume 11, Issue 2, pp. 169-187, April 2008 (ISI), (DOI: 10.1080/10255840701695140; IDS Number: 277UV) – CNCS award (code: 441).
21. Racilă M., Crolet J.M., "Human cortical bone: the Sinupros model", Studies in health technology and informatics, J. Hammer et al. Eds, IOS Press, ISSN 0926-9630, vol. 133, pp. 208-215, 2008 (http://www.ncbi.nlm.nih.gov/pubmed/18431849?dopt=Abstract ; IDS Number: BMN41) (ISI).
22. Crolet J. M., Racilă M., "Collagen fibers effect on the mechanical properties of cortical bone. A numerical approach", Computer Methods in Biomechanics and Biomedical Engineering, ISSN: 1025-5842, Volume 11, Supplement 1, pp 69 - 71, 2008 (ISI) (DOI: 10.1080/10255840802296608; IDS Number: 398OZ).
23. Racilă M., Crolet J. M., "Nano and macro structure of cortical bone: numerical investigations", Mechanics of Advanced Materials and Structures, Volume 14, Issue 8, pp. 655 - 663, ISSN: 1537-6494, 2007 (ISI) (http://dx.doi.org/10.1080/15376490701673193 ; IDS Number: 235MY).
24. Racilă M., Crolet J. M., "SINUPROS: human cortical bone multiscale model with a fluide-structure interaction", Computer Methods in Biomechanics and Biomedical Engineering, Taylor & Francis Group, ISSN: 1025-5842, vol. 10, Supplement 1, pp. 179-181, 2007 (ISI) (DOI: 10.1080/10255840701479891)
25. Crolet J. M., Racilă M., Mahraoui R., Meunier A., "New numerical concept for hydroxyapatite in human cortical bone", Computer Methods in Biomechanics and Biomedical Engineering, Taylor & Francis Group, ISSN: 1025-5842, Vol. 8 (2), pp. 139-143, 2005 (ISI).
26. Racilă M., Crolet J. M., "Multi physic and multi scale aspects in human cortical bone", Rom. Journ. Phys., ISSN 1221-146X, vol. 50, nos 9-10, pp. 1157-1161, 2005 (ISI).
27. Racilă M., Crolet J. M., "Human cortical bone: computer method for physical behavior at nano scale. Constant pressure assumption", Technology and Health Care – Journal of the European Society for Engineering and Medicine, IOS Press, ISSN 0928-7329, Vol.14, No. 4,5, pp. 379-392, 2006 (ID 8966995400 - Scopus Database) (BDI).
28. Crolet J. M., Racilă M., "Sur les propriétés physiques homogénéisées d'une paroi osseuse", Annals of University of Craiova, vol. 32, ISSN: 1223-6934, pp. 106-111, 2005 (BDI) (Math Scinet: MR2215902 and Zentralblatt Math: Zbl pre 05176684) (in french).

Proceeding Papers (selecție)

1. Gencărău N., Matei, L., Dumitru, I., Otat, O, Racilă M., Oprica A., Racilă L., Evaluation of different vehicle types by using modelling algorithms in road traffic virtual networks platforms, Economicity, Safety and Reliability for Motor Vehicles Congress (and SIAR International Automotive and Transport Engineering Congress), ISBN 978-1-7138-9567-1, Curran Associates, Inc., 2024.
2. L Matei, I Dumitru, L Racilă, M. Racilă, D Tutunea, O Otat - Construction of a Kart Chassis Through 3D Reconstruction Methods–Part 1–Scanning and Alignment, The 30th SIAR International Congress of Automotive and Transport Engineering -

Science and Management of Automotive and Transportation Engineering, Springer International Publishing, ISBN 978-3-030-32563-3, pp. 636 – 642, 2020.
3. L Matei, I Dumitru, L Racilă, M. Racilă, D Tutunea, O Otat - Construction of a Kart Chassis Through 3D Reconstruction Methods–Part 2–Reverse Engineering, The 30th SIAR International Congress of Automotive and Transport Engineering - Science and Management of Automotive and Transportation Engineering, Springer International Publishing, ISBN 978-3-030-32563-3, pp. 643 – 649, 2020.
4. L Racilă, I Dumitru, L Matei, M. Racilă, D Tutunea, I Geonea - Solicitations in the Rear Axle Support of a Karting Frame, The 30th SIAR International Congress of Automotive and Transport Engineering - Science and Management of Automotive and Transportation Engineering, Springer International Publishing, ISBN 978-3-030-32563-3, pp. 607 – 613, 2020.
5. Racilă, L.D., Dumitru, I., Tutunea, D., Matei, L., Geonea, I.,, Otat, O., M. Racilă, - Focusing device based on overconstrained mechanism, IOP Conference Series: Materials Science and Engineering, 568(1), ISBN 1757 – 899X, IOP Publishing Ltd, pp. 1-6, 2019.
6. L. Matei, I. Dumitru, A. Oprica, L. Racilă, B. Florescu, A. Dima, M. Racilă - Studies on determining the dynamics of public transport based on interdependent passengers - reconfiguration of stations, AMMA 2018, The IVth International Congress of Automotive and Transport Engineering, Cluj-Napoca, October 17 - 19, UT Press Cluj-Napoca, ISBN 978 – 606 – 737 – 314 – 1, U.T. Press, pp. 229 – 236, 2018.
7. L. Matei, M. Racilă , A. Oprica, D. Neagoe, I. Dumitru, L. Racilă - Mathematical method for studying passenger flows in Craiova Municipality public transport system, 11th International Congress on Automotive and Transport Engineering, november 8-10, Pitesti, CAR 2017, Romania, published in "Scientific Bulletin of University of Pitesti, Automotive series", year XXIII, no. 27, ISSN 1453 – 1100, 11 pag, 2017.
8. J.M. Crolet, M.C. Stroe, M. Racilă, Possible Explanation of Mechano-Transduction Process for Human Cortical Bone, , Journal of Biomechanics, ISSN: 0021-9290, Vol. 43, no. S1, pp. S59-S60, June 2010 (ISI).
9. J. M. Crolet, C. M. Stroe, M. Racilă, Possible role of collagen in mechano transduction of cortical bone, , Proceeding (CD) of the 4th European Conference on Computational Mechanics, Paris, France, 16-21 mai 2010.
10. Racilă M., Crolet J. M., „Transport of oxygen in cortical bone. Influence of mechanical loading", Proceeding of the ECCOMAS, International Conference on Tissue Engineering 2009, P.J. Bartolo et al Eds, pp. 241-247, ISBN 978-972-8469-90-0, 2009.
11. M. Racilă, J.M. Crolet, "Homogenization of Human Cortical Bone. Numerical Approach", Proceedings of the 5th International Conference "Dynamical Systems and Applications", Volume 1, Special Issue 11, Ovidius University Press, ISSN: 1584-5990, pp. 141-154, June 2009.
12. Racilă M., Crolet J. M., "SINUPROS : un modèle et un logiciel nano-macro pour les propriétés mécaniques de l'os cortical humain", Proceedings of the 8ème Colloque National en Calcul des Structures, Giens, Vol. 1, pp. 83-89, Hermes Science Publications, ISBN 978-2-7462-1822-2, 2007.
13. Racilă M., Crolet J. M., "Nano and macro structure of cortical bone: numerical investigations", Proceedings (CD) of 3th European Conference on Computational Mechanics Solids, Structures and Coupled Problems in Engineering, Lisbon, Portugal, June 2006.
14. Racilă M., Crolet J. M., "Human cortical bone: A tool for numerical simulation of fluid motion in osteonal architectures", Proceedings of 2nd International Conference on Computational Bioengineering, Vol.2, IST Press, ISBN: 972-8469-37-3, pp.711-718, 2005.

Conferințe (selecție)

1. M. Racilă, Th. Oprica, L. Matei, I. Dumitru, N. Gencărău, Novel algorithms for constrained optimization of multivariable functions in two and three dimensions, The 35th SIAR International Congress of Automotive and Transport Engineering, AMMA, Cluj-Napoca, 2025.
2. M. Racilă, Th. Oprica, L. Matei, I. Dumitru, N. Gencărău, A. Oprica, L. Racilă, Constrained optimization for sustainable logistics: a case study with multi-modal transportation, 7th International Conference ADEM, DrobetaTurnu Severin, 2025.
3. A.F. Iordache, M. Racilă, An Alternative Approach on Newton and Lagrange Coefficients of the Interpolating Polynomial, MITRE 2021, 1-3 july 2021, Chișinău, Moldova State University, Republica Moldova. (http://cecmi.usm.md/mitre/ro/node/475 - pp. 124-125 Book of abstracts).
4. M. Racilă, J. M. Crolet, Fiber orientation of composite materials effect on mechanical properties, ICOME 2017, 11-12 october 2017, Craiova, Romania. (http://mecanica.ucv.ro/ViataAcademica/Conferinte/ICOME2017/Papers/S4.pdf)
5. M. Racilă, J. M. Crolet, Numerical simulations and some applications in the cortical bone behaviour and thermoablation in living tissues, Workshop NONLINEAR DYNAMICS, 26 - 27 Septembrie 2014, Sinaia, Romania.
6. L. Ellejmi, A.M. Mancuso, M. Racilă, J.M. Crolet , Numerical simulations in a bonycallus,39ème Congrès de la Société de Biomécanique, Valenciennes, 27-28 août 2014, France.
7. J.M. Crolet, M. Racilă, Bone Remodeling: A New Law from the Sinupros Model, 8th ESMC, Graz, Austria, 9-13 july 2012. (http://www.esmc2012.tugraz.at/images/stories/esmc-2012_programme_final.pdf)
8. M. Racilă, V. Serchi, J.M. Crolet, Effect of macroscopic loading on nanoscopic signal for cellular activity, 37ème Congrès de la SB 2012 – Toulouse, France, 16 - 19 octobre 2012. (http://sb2012-toulouse.imft.fr/index8_prog.htm)
9. M. Crolet, M. Racilă, Simulation of Bone Remodeling With the Sinupros Model, 10th International Symposium CMBBE, Berlin, Germany, 11-14 april 2012.

(http://www.cmbbe2012.cf.ac.uk/list%20of%20PL5.asp)

10. M.C. Stroe, J.M. Crolet and M. Racilă, Rôle de la piézoélectricité du collagène dans la mecanotransduction osseuse. Approche numérique, Congres SMAI 2011, 23-27 mai 2011, Guidel, Bretagne, France. (http://smai.emath.fr/smai2011/programme_detaille.php (http://smai.emath.fr/smai2011/resumesPDF/cmstroe/Abstract.pdf)
11. Racilă M., Crolet J.M, Numerical simulation of thermoablation in living tissues, 36ème Congrès de la SB, Besançon, France, 31 aout-2 sept 2011 (http://sb2011-besancon.fr/Programme.aspx)
12. M.C. Stroe, Racilă M., Crolet J.M, Quantitative investigation for properties of osteoporotic cortical bone: a numerical study, 36ème Congrès de la SB, Besançon, France, 31 aout-2 sept 2011 (http://sb2011-besancon.fr/Programme.aspx)
13. M. Racilă, J.M. Crolet, C.M. Stroe, 9th International Symposium Computer Methods in Biomechanics and Biomedical Engineering, Valencia, Spania, 24-27 february 2010, Link between bony elastic properties and mineral density. Role of the architecture. (http://www.cmbbe2010.cf.ac.uk/pages/programme.htm)
14. J. M. Crolet, C. M. Stroe, M. Racilă, 9th International Symposium Computer Methods in Biomechanics and Biomedical Engineering, Valencia, Spania, 24-27 february 2010, Bony mechanotransduction: a possible explanation (http://www.cmbbe2010.cf.ac.uk/pages/programme.htm
15. J. M. Crolet, C. M. Stroe, M. Racilă, 4th European Conference on Computational Mechanics (ECCM 2010), Paris, France, 16-21 mai 2010, Possible role of collagen in mechano transduction of cortical bone (http://www.eccm2010.org/Document/programme_ECCM_2010.pdf) (https://www.eccm-2010.org/abstract_pdf/abstract_930.pdf)
16. J.M. Crolet, M.C. Stroe, M. Racilă, International Conference on Orthopaedic Surgery, Biomechanics and Clinical Applications, Brunel University, West London, UK, June 6-9, 2010, Possible Explanation of Mechano-Transduction Process for Human Cortical Bone, (http://www.brunel.ac.uk/about/acad/sed/conf/obcas/conferenceprogram)
17. J. M. Crolet, C. M. Stroe, M. Racilă, 35ème congrès annuel de la Société de Biomécanique, Mans, France, 25 -27 août 2010, Decreasing of mechano transduction process with age, (http://sb2010.univ-lemans.fr/docs/Programme.pdf)
18. J.M. Crolet, M.C. Stroe, M. Racilă, Workshop New biomedical advances in Franche-Comté, 4-5 november 2010, Besancon, France, Rôle de la piézoélectricité du collagène dans la mécanotransduction osseuse. Approche numérique, (http://ospr2.fr/manifestations.aspx)
19. M. Racilă, Asymptotic homogenization in composite media. Application to human cortical bone, Belarusian State University, Minsk, Belarus, 29 june 2015.
20. J. M. Crolet, M. Racilă, A. Marguier, O. Placide, Osteosynthesis by electro-osmosis. A numerical simulation, 9th WSEAS International Conference on Cellular and Molecular Biology, Biophysics and Bioengineering (BIO '13), Chania, Crete Island, Greece, August 27-29, 2013. http://www.wseas.org/multimedia/conferences/2013/Chania/Program.pdf
21. J. M. Crolet, S. Acciardo, M. Racilă, Simulation of bone ingrowth in non-resorbable substitutes, 38ème Congrès de la Société de Biomécanique, Marseille, Luminy, 2-6 sept 2013, France. http://www.biomecanique.org/manifestations/congres/82-congres-sb-2013-marseille-luminy-3-6-septembre-2013
22. J. M. Crolet, S. Acciardo, M. Racilă, B de Billy, Dissecan osteochondritis of the elbow: a possible explanation with a numerical study, 38ème Congrès de la Société de Biomécanique, Marseille, Luminy, 2-6 sept 2013, France. http://www.biomecanique.org/manifestations/congres/82-congres-sb-2013-marseille-luminy-3-6-septembre-2013

Data,
octombrie 2025

Semnătura,
Conf. Univ. Dr. Racilă Mihaela