

Lista lucrari (selectie) – prof.dr.ing. Daniela Tarnita

1 Teza de doctorat

Teza de doctorat cu titlul "*Contribuții la analiza și sinteza mecanismelor acționate cu elemente elastice*", susținută în 8 iulie 1996 și confirmată în septembrie 1996.

2. Brevete: 7:

1.System of modular plates for the osteosynthesis of long bone fractures and method for using the same

Patent Number: **RO126084-A2; RO126084-B1, 2013**, Patent Assignee: UNIV CRAIOVA

Inventor(s): **Tarnita, D.**, Tarnita, D.N., Bizdoaca, N G.

2.Modular-adaptive central-medullary orthopaedic nail to be used in treatment of diaphyseal fractures of long bones, Patent Number: **RO127375-A2; RO127375-B1, 2013**

Patent Assignee: UNIV CRAIOVA

Inventor(s): **Tarnita, D.**, Cismaru F., Tarnita, D.N.; et al.

3.Adaptive modular lattice based on intelligent materials such as nitinol, used for the reduction of a fracture and proper immobilization of osseous fragments in the case of long bone fractures

Patent Number: **RO127483-A2 din 30.12. 2013**, Patent Assignee: UNIV CRAIOVA

Inventor(s): Bizdoaca, N G; **Tarnita, D.**; Danoiu S; et al.

4. Ball and socket type joint for elbow prosthesis

Patent Number: **RO129147-A0, sept. 2018**, Patent Assignee: ARTEGO SA

Inventor(s): TARNITA D N; **Tarnita, D.**, BOBORELU C; POPA D L.

5.Artificial hand-forearm system used for carrying out an upper human limb prosthesis

Patent Number: **RO128911-A2, 2017**, Inventor(s): BERCEANU C R; **TARNITA D.**

6. Orthotic Device used for osteoarthritic knee

Patent Nr 132075/ 30.09. 2019.Patent Assignee: **Universitatea din Craiova**, Inventors: Catana M, **Tarnita D**, Tarnita D N

7.Tușaliu, P.,**Tarniță, D.**,s.a.-Dispozitiv pentru modelarea repartiției tensiunilor inalte pe lanțuri de izolatoare de clasă 750KV-**Certificat de inovator nr.253**, Ministerul Ed. si Invățământului, 30 sept., 1985.

Aplicatii pentru brevete: 9

1. Stem modular-adaptiv pentru proteza totala de sold, bazat pe materiale inteligente, inventatori: Danut

Nicolae Tarnita, Daniela Tarnita, cerere inregistrata la OSIM cu numărul: A01023 / 2016.

2. Modular exoskeleton for applications in recovery of human lower limb, inventatori: Geonea Ionut, Daniela

Tarnita, Patent application No. A00047/30.01. 2017.

3. Dispozitiv pentru recuperarea progresiva a miscarilor articulatiilor umane utilizat in sisteme ortotice, inventatori: **Alin Petcu, Daniela Tarnita, Danut Nicolae Tarnita**, inregistrata la OSIM cu numărul A0081 din 14.02. 2017.

4. Dispozitiv utilizat pentru osteosinteza și compactarea fracturilor oaselor lungi, inventatori: **Daniela Tarnita, Danut Nicolae Tarnita**, cerere înregistrată la OSIM cu numărul A00162/2019 din 14.03. 2019.

5. Centromedular elastic nail, made of metallic spheres centered on a central rod, used for osteosynthesis of diaphyseal fractures of long bones, inventatori: **Tarnita Danut-Nicolae Tarnita Daniela, Popa Dragos Laurentiu, Vaduva Razvan Cristian, Petrovici Ilaria Lorena, Tenovivi Mihai**, înregistrată la OSIM cu numărul A00233/2019 din 10.04. 2019.

6. AUTOMATIC, MODULAR ARCHITECTURE, WITH COOPERATIVE FACILITIES, Dan Andrițoiu, Horațiu Roibu, L Băzăvan, Daniela Tarniță, Nicu George Bizdoaca, înregistrată la OSIM cu numărul A00174 / din 10.03. 2019.

7. SMART FLUID BASED SPHERICAL ARTICULATION, Vladu Ionel Cristian, Pană Cristiana Floriana, Stoian Viorel, Pătrașcu Pană Daniela Maria, Vladu Ileana, Grecu Dan Cristian, Daniela Tarniță, Nicu George Bizdoacă, cerere înregistrată la OSIM cu numărul A00213 din 8.04. 2019.

8. SMART FLUID BASED VARIABLE GEOMETRY WHEEL, Pană Cristina Floriana, Vladu Ionel Cristian, Pătrașcu Pană Daniela Maria, Manta Liviu Florin, Cojocar Dorian, Daniela Tarniță, Nicu George Bizdoacă, cerere înregistrată la OSIM cu numărul A00212 din 8.04. 2019.

9. Componenta femurala a unei endoproteze de sold, modular-adaptiva, utilizand o tija centrala, elastica pe care se insiruie mai multe sfere metalice si module constructive, Tarniță Dănuț-Nicolae, Tarniță Daniela, Ciurea Marius, Rogoveanu Otilia Constantina, Dumitru Nicolae, Popa Dragos Laurențiu, Capitanescu Bogdan, Vaduva Razvan Cristian, Ontica Vladimir, Cerere de brevet înregistrată la OSIM cu numarul Nr A00104/26.02.2020

3. Articole publicate in Jurnale ISI cu factor de impact

1. D Tarniță, A Petcu, N Dumitru, **Influences of treadmill speed and incline angle on the kinematics of the normal, osteoarthritic and prosthetic human knee**, *Rom J Morphol Embryol* 2020, 61(1):199–208, doi: 10.47162/RJME.61.1.22.

2. C. Vaida, I. Birlescu, A Pisla, I. Ulinici, **D. Tarnita**, G. Carbone, D. Pisla., **Systematic Design of a Parallel Robotic System for Lower Limb Rehabilitation**, in *IEEE Access*, vol. 8, pp. 34522-34537, 2020.
3. Bogdan GHERMAN, Iosif BIRLESCU, Nicolae PLITEA, Giuseppe CARBONE, **Daniela TARNITA**, Doina PISLA, **On the singularity-free workspace of a parallel robot for lower-limb rehabilitation**, *Proceedings of the Romanian Academy*, Vol 20, Nr. 4, pp. 383-391, 2019.
4. **Tarnita, D.**, Pisla, D., Geonea, I., Vaida, C., I. et al. **Static and Dynamic Analysis of Osteoarthritic and Orthotic Human Knee**, *J Bionic Eng* (2019) 16:514-525. <https://doi.org/10.1007/s42235-019-0042-3>
5. **Tarnita, D.**, D-B Marghitu, **Nonlinear dynamics of normal and osteoarthritic human knee**, *Proceedings of the Romanian Academy*, pp. 353-360, 2017. Geonea, I., **Tarnita, D.**, **Design and evaluation of a new exoskeleton for gait rehabilitation**, *Mechanical Sciences*, 8(2), pp 307-322. 2017
6. **Tarnita, D.**, Calafeteanu, D., Geonea, I., Petcu, A., Tarnita, D.N., **Effects of malalignment angle on the contact stress of knee prosthesis components, using finite element method**, *Rom J Morphol Embryol*, 2017, 58(3), pp.831-836
7. **Tarnita, Daniela**, Wearable sensors used for human gait analysis, *Rom J Morphol Embryol* 2016, 57(2), pp 373-382
8. **Tarnita, Daniela**, Tarnita, D.N., **Experimental measurement of flexion-extension movement in normal and corpse prosthetic elbow joint**, *Rom J Morphol Embryol* 2016, 57(1):145–151
9. DN Tarniță, **Daniela Tarniță**, D Grecu, D Calafeteanu, B Căpitănescu, **New technical procedure involving Achilles tendon rupture treatment through transcutaneous suture**, *Rom J Morphol Embryol* 2016, 57(1):211–214.
10. **Tarnita, Daniela**, Marghitu, D., **Analysis of a hand arm system**, *Robotics and Computer-Integrated Manufacturing*, Vol. 29, Issue 6, Pages 493–501, <http://dx.doi.org/10.1016/j.rcim.2013.06.001>, 2013.
11. **Tarnita, Daniela**, Catana, M., Tarnita, D.N., **Experimental measurement of flexion-extension movement in normal and osteoarthritic human knee**, *Rom J Morphol Embryol*, 54(2):309–313, 2013, <http://www.rjme.ro/RJME/resources/files/540213309313.pdf>.
12. **Tarnita, D.**, Tarnita, D.N., Oprea, B., Samide A., **Electrochemical study on corrosion resistance in physiological media of nitinol wire used as bioimplant**, *Digest Journal of Nanomaterials and Biostructures*, Vol. 8, No. 1, 2013, p. 35 – 41, http://www.chalcogen.ro/35_Tarnita.pdf.
13. **Tarnita, D.**, Tarnita, D.N., Tarnita, R., Berceanu, C.*, Cismaru, F.*, **Modular adaptive bone plate connected by Nitinol staple**, *Materialwissenschaft und Werkstofftechnik, Materials Science and Engineering Technology, Special Edition Biomaterials*, Willey-Vch, Matwer 41, No.12, pp.1070-1080, DOI 10.1002/mawe .201000711, 2010, <http://onlinelibrary.wiley.com/doi/10.1002/mawe.201000711/abstract>.
14. **Tarnita D.**, Bolcu, D., Berceanu, C., Cismaru, F., **Theoretical and experimental studies for an orthopedic staple made up Nitinol**, *Journal of Optoelectronics and Advanced Materials*, Vol.12, No.11, pp. 2323–2332, 2010, www.joam.inoe.ro/index.php.
15. **Tarnita, D.**, Berceanu, C., Tarnita, C., **The three-dimensional printing—a modern technology used for biomedical prototypes**, *Materiale plastice*, no.47, nr.3, pp 328-334, 2010, www.revmaterialeplastice.ro.
16. **Tarnita, D.**, Tarnita, D.N., Popa D., Grecu, D., Niculescu, D., **Numerical simulations of human tibia osteosynthesis using modular plates based on Nitinol staples**, *Rom J Morphol Embryol*, Vol 51, No.1, pp 145-150, 2010, <http://www.rjme.ro/RJME/resources/files/510110145150.pdf>.
17. **Tarnita, D.**, Tarnita, D.N., Hacman, L., Copilusi, C., Berceanu, C., Cismaru, F., **In vitro experiment of the modular orthopedic plate based on Nitinol, used for human radius bone fractures**, *Romanian Journal of Morphology and embryology*, Vol 51(2), 315-320, 2010, <http://www.rjme.ro/RJME/resources/files/510210315320.pdf>.
18. **Tarnita D.**, Boborelu, C., Popa, D., Rusu, L., **The three-dimensional modeling of the complex virtual human elbow joint**, *Rom J Morphol Embryol*, Vol 51, No.3, pp 489-495, 2010, <http://www.rjme.ro/RJME/resources/files/510310489495.pdf>.
19. **Tarnita, D.**, Tarnita, D.N., Bizdoaca, N., Popa, D., **Contributions on the dynamic simulation of the virtual model of the human knee joint**, *Materialwissenschaft und Werkstofftechnik, Materials Science and Engineering Technology, Special Edition Biomaterials*, Willey-Vch., Vol.40(1-2), 2009, pp73-81, <http://onlinelibrary.wiley.com/doi/10.1002/mawe/>.
20. **Tarnita, D.**, Tarnita, D. N., et al., **Properties and Medical Applications of Shape memory Alloys**; *Rom J Morphol Embryol*, Vol. 50. No.1, pp.15-22, 2009, <http://www.rjme.ro/RJME/resources/files/500109015021.pdf>.
21. **Tarnita, D.**, Tarnita, D.N., Bizdoaca, N., C Tarnita, C. Berceanu, C. Boborelu, **Modular adaptive bone plate for humerus bone osteosynthesis**, *Rom J Morphol Embryol* Vol. 50(3), pp. 447-452 ISSN 1220-0522, 2009, <http://www.rjme.ro/RJME/resources/files/500309447452.pdf>.
22. Bizdoaca, N., **Tarnita, D.**, Tarnita, D. N., **Modular adaptive implant based on smart materials**, *Rom J Morphol Embryol*, Vol.49(4), pp.507-512, 2008, <http://www.rjme.ro/RJME/resources/files/490408507512.pdf>.

4. Articole in Proceedingsuri ISI (WOS)

1. **Tarnita, D.**, Boborelu C., et al., **Virtual Modeling and Numerical Simulations of the Latitute Prosthesis - Human Elbow Assembly**. The 30th SIAR Intern.Congress of Automotive and Transport Eng. 706-712, Springer,2020
2. **Tarnita D.**, Oncescu A.T. (2020) **Sensors Used for Human Gait Monitoring**. In: The 30th SIAR Intern. Congress of Automotive and Transport Eng. 518-524, SMAT 2019. Springer, Cham
3. **Tarnita D.**, Georgescu M., et al., **Nonlinear Analysis of Human Ankle Dynamics**. *New Trends in Medical and Service Robotics. Mechanisms and Machine Science*, vol 65. Springer, 235-243, https://link.springer.com/chapter/10.1007/978-3-030-00329-6_27, 2019.
4. Geonea I., **Tarnita D.**, Carbone G., Ceccarelli M. (2019) **Design and Simulation of a Leg Exoskeleton Linkage for Human Motion Assistance**. In: *New Trends in Medical and Service Robotics. Mechanisms and Machine Science*, vol 65. Springer, 93-100, https://link.springer.com/chapter/10.1007/978-3-030-00329-6_11

5. Geonea, I., Tarnita, D., **Motion assistance with an exoskeleton for stair climb**. In 2018 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR) (pp. 1-6). IEEE. 2018.
6. **Tarnita, D.**, I Geonea, A. Petcu, D.N. Tarnita, **Numerical Simulations and Experimental Human Gait Analysis Using Wearable Sensors**, New Trends in Medical and Service Robots, Springer Publishing House, DOI:10.1007/978-3-319-59972-4_2, pp.289-304, 2018, Jul.
7. **Tarnita, D.**, Boborelu, C., Geonea, I., Malciu, R., Grigorie, L., & Tarnita, D. N. (2018, June). **“In vitro” Implantation Technique Based on 3D Printed Prosthetic Prototypes**. In IOP Conference Series: Materials Science and Engineering (Vol. 374, No. 1, p. 012060). IOP Publishing.
8. **Tarnita, D.**, Geonea, I., & Petcu, A. (2018). **Experimental Human Walking and Virtual Simulation of Rehabilitation on Plane and Inclined Treadmill**. In Acoustics and Vibration of Mechanical Structures—AVMS-2017 (pp. 149-155). Springer, Cham.
9. Degeratu, S., P. Rotaru, I. Boncea, **D. Tarnita** and L. Alboteanu, **An Overview of the Properties and Industrial Applications of Shape Memory Alloys**, IEEE Conference, Bucharest, nov. 2018
10. **Tarniță, D.**, I Geonea, A. Petcu, D.N. Tarnita, **Experimental Characterization of Human Walking on Stairs Applied to Humanoid Dynamics**, Advances in Robot Design and Intelligent Control, Springer, 293-301, 2016
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12. **Tarnita, D.**, Georgescu, M., Tarnita, D.N., **Applications of Nonlinear Dynamics to Human knee movement on Plane & Inclined Treadmill**, *New Trends in Medical and Service Robots*, Springer, Vol 39, 59-73, 2016.
13. **Tarnita, D.**, M Catana, D.N. Tarnita, **Design and Simulation of an Orthotic Device for Patients with Osteoarthritis**, pp. 61-77, *New Trends in Medical and Service Robots*, Springer Publishing House, 2016
14. Tarnita, D., D. Popa, C. Boborelu, N. Dumitru, D. Calafeteanu, D.N. Tarnita, **Experimental Bench Used to Test Human Elbow Endoprosthesis**, *New Trends in Mechanism and Machine Science*, Vol 24 (2015), pp. 669-677,
15. N. Dumitru, C. Copilusi, I. Geonea, **D. Tarnita**, I. Dumitrache, **Dynamic Analysis of an Exoskeleton New Ankle Joint Mechanism**, *New Trends in Mechanism and Machine Science Mechanisms and Machine Science Volume 24*, 2015, Springer International Publishing, 709-717, DOI 10.1007/978-3-319-09411-3-75, Print ISBN 978-3-319-09410-6,
16. **Tarnita, D.**, Marius Catana, DN Tarnita, **Contributions on the modeling and simulation of the human knee joint with applications to the robotic structures**, In **“New Trends on Medical and Service Robotics: Challenges and Solutions”**, *Mechanisms and Machine Science 20*, DOI: 10.1007/978-3-319-05431-5_19, pp. 283-297, Springer Verlag, 2014,
17. **Tarnita, D.**, Catana, M., Tarnita, D.N., **Modeling and Finite Element Analysis of the Human Knee Joint Affected by Osteoarthritis**, *Key Engineering Materials Vol. 601* (2014) pp 147-150, <http://www.scientific.net/KEM.601.147>.
18. Catana M., **Tarnita D.**, Tarnita D.N., **Modeling, Simulation and Optimization of a Human Knee Orthotic Device**, *Applied Mechanics and Materials*, Vol. 371 (2013), 549-553, Trans Tech Publ, doi:10.4028 /www.scientific.net/AMM.371.549
19. Catana M., **Tarnita D.**, Diorduc, V., **Virtual Simulation of Plastic Injection Technology for Medical Devices**, *Applied Mechanics and Materials Vol. 371*, 2013 pp 529-533, Trans Tech Publications, doi:10.4028 /www.scientific.net/AMM.371.529
20. Berceanu, C., **Tarnita, D.**, Filip, D., **About an experimental approach used to determine the kinematics of the human finger**, *Journal of the Solid State Phenomena, Robotics and Automation Systems*, Vol. 166-167, pp. 45-50, 2010, www.scientific.net/SSP.166.45.
21. Berceanu, C., **Tarnita, D.**, **Aspects Regarding the Fabrication Process of a New Fully Sensorized Artificial Hand**, MODTECH 2010: New face of TMCR, Proceed of the International Conference ModTech, pp 123-126, 2010 (WOS)
22. Berceanu, C., **Tarnita, D.**, et al, **Forward and Inverse Kinematics Calculation for an Anthropomorphic Robotic Finger**, chapter in **“New Trends in Mechanisms Science: Analysis and Design”**, pp 335-342, Springer Publishing House, ISBN 978-90-481-9688-3, 2010, http://link.springer.com/chapter/10.1007/978-90-481-9689-0_39?no-access=true.
23. Berceanu, C., **Tarnita, D.**, Filip, D., **Exteroceptive sensor system of a new developed artificial hand**, *Journal of the Solid State Phenomena, Robotics and Automation Systems*, Vol. 166-167, pp. 51-56, 2010, www.scientific.net/SSP.166.51.
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26. **Tarnita, D.**, Popa, D., Dumitru, N., Tarnita, D.N., Mărcușanu, V., Berceanu, C, **Numerical Simulations of the Human Knee Joint**, chapter in **“New Trends in Mechanisms Science: Analysis and Design”**, pp 309-317, Springer Publishing House, 2010, ISBN 978-90-481-9688-3.
27. Bizdoacă, N., Tarniță, D.N., **Tarniță, D.**, Application of smart materials: bionics modular adaptive implants, *Advances in Mobile Robotics*, ISBN-10 981-283-576-8 World Scientific Publishing Co.Pte.Ltd, pp. 190-198.

5. Lucrari indexate SCOPUS, BDI

1. **D Tarnita**, M Georgescu, A Petcu, On the Measurement of Dynamic Stability of Normal and Osteoarthritic Human Knee During Ascending and Descending the stairs, *MTM&Robotics 2019, MMS 88*, pp. 1–13, 2021. Springer.
2. **Tarnita D.**, Georgescu M., Dumitru N., Tarnita DN. (2020) Static and Dynamic Analysis of a Prosthetic Human Knee. In: Pisla D., Corves B., Vaida C. (eds) *New Trends in Mechanism and Machine Science. EuCoMeS 2020. Mechanisms and Machine Science*, vol 89. Springer, Cham. https://doi.org/10.1007/978-3-030-55061-5_18...

3. A Petcu, **D Tarnita**, D N Tarnita, Design and virtual model of an exoskeleton for lower limb rehabilitation, ACME 2020, Iasi, vol. 997(1) , **012085**.
4. **TARNITA D**, Petcu A, ONTICA V, et al, Experimental study of sit-to-stand kinematics in healthy, osteoarthritic and prosthetic knee, Conferinta Internationala ACME, Iasi, iunie 2020 vol. 997(1) , **012092**.
5. **D Tarnita**, AI Petcu, et al., Experimental study of the treadmill inclination influence on the flexion angles of the lower limbs joints, IOP Conference Series: Materials Science and Engineering, Vol 572, Issue 1, Pages 012096, iulie 2019
6. Geonea I., Dumitru N., **Tarnita D.**, Rinderu P. (2019) **Design and kinematics of a new leg exoskeleton for human motion assistance**. Advances in Mechanism and Machine Science. IFToMM WC 2019. Mechanisms and Machine Science, pp 165-174 vol 73. Springer, Cham.
7. **Tarnita, D.**, Tarnita D.N., et al., **Stresses and displacements for normal human knee menisci and for sectioned menisci, using finite element method**, 2nd Congress of European College of Sport & Exercise Physicians, London, sept. 2010, published in British Journal of Sports Medicine, 2011;**45**:e1 doi:10.1136/bjism.2010.081554.43.
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9. **Tarnita, Daniela**, Popescu, I., Dan Marghitu, **Creating Artistic Curves with Planar Mechanisms**, Proceedings of **SYROM 2013**, ed. Springer, 2013 pp.233-240, Mechanisms and Machine Science, Vol. 18, ISBN:978-3-319-01844-7, , http://link.springer.com/chapter/10.1007/978-3-319-01845-4_23?no-access=true.
10. **Daniela Tarnita**, Marius Catana, DN Tarnita, **Nonlinear Analysis of Osteoarthritis Process in Virtual Human Knee Joint**, Proceedings of **SYROM 2013**, ed. Springer, pp. 225-232, 2013, Mechanisms and Machine Science, Vol. 18, ISBN:978-3-319-01844-7, http://link.springer.com/chapter/10.1007/978-3-319-01845-4_23
11. **Tarnita, D.**, Boborelu, C., et al.. **Design and Finite Element Analysis of a New Spherical Prosthesis-Elbow Joint Assembly**. In New Advances in Mechanism and Machine Science (pp. 127-135). Springer, Cham. 2018.
12. D. Calafeteanu, **Daniela Tarnita**, D. N. Tarnita, **Numerical Simulations of 3D Model of Knee-prosthesis Assembly with Antero-posterior Tibial Slope**, IFToMM Congres, Taipei, 2015, DOI Number: 10.6567/IFToMM.14TH.WC.OS1.008
13. **Tarniță, Daniela**, Malciu, R., Grigorie, L., Oncescu, A., Prunoiu, D., & Tarnita, D. N. **“Mobile Orthoses Used for the Osteoarthritic Knee Stabilization.”** Applied Mechanics and Materials, vol. 896, Trans Tech Publications, Ltd., Feb. 2020, pp. 39–44. Crossref, doi:10.4028/www.scientific.net/amm.896.39.
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17. **Tarnita D**, Rosca A., Geonea I, Calafetenu D., **Experimental measurements of the human knee flexion angle during squat exercises**, Applied Mechanics and Materials. Vol. 823, 113-118, 2016, www.scientific.net/AMM.823.113
18. **Tarnita, D.**, Dan Calafeteanu, et al, Development of a Three-Dimensional Finite Element Knee Prosthesis Model, Applied Mechanics and Materials. Vol. 822, 150-155, 2016, www.scientific.net/AMM.822.150.
19. **Tarnita, D.**, Popa, D., Tarnita, D. N., Grecu, D., **CAD method for three-dimensional model of the tibia bone and study of stresses using the finite element method**, Rom J Morphol Embryol, Vol. 47. No.2, pp.181-186, ISSN 1220-0522, 2006, <http://www.rjme.ro/RJME/resources/files/470206181186.pdf>.
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22. Popa, D., Tarnita, D.N., **Tarnita, D.**, Grecu, D., **The generation of the three-dimensional model of the human knee joint**, in Rom J Morphol Embryol, vol.46 no.4, pp.3-6, 2005,<http://www.rjme.ro/RJME/resources/files/460405279281.pdf>.
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26. **Tarnita, D.** Tarnita, D.N., et al, **Orthopaedic prototypes obtained by 3D printing technology**, Academic Journal of manufacturing engineering, vol. 11, issue 1, 2013, pp.119-124, www.eng.upt.ro/auif/Lucrari_PDF_2013_1/Tarnita.pdf.
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8. Proiecte de cercetare

	<u>Programul/Proiectul</u>
1	Sistem robotic modular inovativ pentru recuperarea medicală a monoparezei brahiale , 2019, PN-III-P2-2.1-PED-2019-3022, CO – Universitatea Tehnica din Cluj –Napoca, Director Partener P2-UCv , 2020-2022
2	Produs nou fabricat prin imprimare 3D pe bază de extrudare din biodesuri marine- Experimental model of a 3D product based on advanced materials with improved biomechanical properties , Acronym: 3D BIO PRO , 2019, PN-III-P2-2.1-PED-2019-3090, CO- Institutul national de cercetare - dezvoltare pentru metale neferoase si rare -INMR Bucuresti, Partener P1- Universitatea din Craiova; Director P1-UCv , 2020-2022
3	Sisteme de protecție individuală și colectivă pentru domeniul militar pe bază de aliaje cu entropie ridicata- HEAPROTECT , Cod identificare: PN-III-P1-1.2-PCCDI-2017-0875, Contract: 20 PCCDI / 2018 – Membru , 2019-2020
4	Partner-ship Ford Romania – University of Craiova for transfer and implementation of Ford Eco-Technologies to realise of EcoSport model in Craiova- PN III Bridge Grant, contract cu Nr. 92 BG/2016, de tip PN-III-P2-2.1-BG-2016-0123, Membru . 2016-2018

5	Implanturi ortopedice modular adaptive bazate pe materiale inteligente –PNCDI Idei_92, Director, 2007-2010
6	International Exploratory Workshop “From Biological Systems Inspiration to Robotic Structures”, Director, 2012
7	Controlul si Integrarea Tehnologica a Materialelor si Structurilor Inteligente CEEEX –259–CITMSI, 2007, incheiat de CCMR- UCv, Responsabil_compart.Bio-mecatronica. 2006-2008
8	Platforma tehnologică națională de dinamică spațială; CEEEX- Etapa a III-a PC-D09-PT22-652, incheiat de Institutul national de cercetare dezvoltare pentru fizica laserilor, plasmei si radiatiei – INFLPR, Membru, 2005-2007
9	Sistem parametrizat CAD/CAE pentru determinarea prin simulare si analiza a caracteristicilor mecanice si cinematice ale genunchiului uman in vederea protezarii, Director Grant CNCSIS, cod CNCSIS 282, Director, 2004-2005
10	Contribuții la analiza și sinteza mecanismelor acționate cu arcuri Nr.14C/C12/1994. Contract cu Ministerul Educatiei si Invatamantului, Director, 1994
11	Introducerea tehnicii de calcul în proiectarea echipamentelor electroenergetice (Contract cu ANSTI), Nr.663/1996, act adițional 333/1999, faza III -Analiza modal-dinamică a angrenajelor, Membru, 1996,
12	Cercetari, studii, analize in vederea determinarii caracteristicilor unor componente ale echipamentelor electrice din fabricatia Cummins Generator Technologies, Contract 3C/04.04.2016, Membru, 2016-2018
13	Cercetări privind determinarea unor caracteristici pentru uleiurile industriale din transformatoarele de mare putere, SC NET GROUP COMMUNICATIONS SRL, Pitesti (beneficiar) și Universitatea din Craiova (executant). Contract 16C/24.08.2012., Membru, 2012-2014
14	Cercetări privind determinarea unor caracteristici pentru sistemele de izolație ale generatoarelor electrice din fabricația CUMMINS GENERATOR TECHNOLOGIES, Părți contractante:CUMMINS GENERATOR TECHNOLOGIES, Craiova (beneficiar) și Univ din Craiova (executant). Contract 9C/2012. Membru, 2012-2013
15	Cercetări privind proprietățile fizico-mecanice ale produselor din cauciuc și modernizarea metodelor și echipamentelor de încercare a acestora. SC ARTEGO SA Tg. Jiu, (beneficiar) și Universitatea din Craiova (executant). Contract 19C/2011. Membru, 2011-2013
16	Cercetări privind analiza conținutului de gaze dizolvate în uleiurile industriale din transformatoarele de mare putere la care HIDROSERV SLATINA SA asigură mentenanța.HIDROSERV SLATINA SA, Slatina (beneficiar) și Universitatea din Craiova , Contract 10C/29.06.2012. Membru, 2012
17	Cercetari privind stabilirea gradului de contaminare al uleiurilor industriale din transformatoarele de mare putere la care Hidroserv Slatina asigura mentenanța. SC HIDROSERV SA Slatina (beneficiar) și Universitatea din Craiova (executant), Contract 536/2009, Membru, 2009-2011

<u>Proiecte castigate prin competitie internationala</u>	
1	Reverse Engineering in Cognitive Recognition And Control of Biomimetics Structures, Capacități /Modul III – Cooperare bilaterală, Nr ANCS 476/27.XI.2009, Nr. UCv: 53C/19.XI.2009, Partea coreana: Seoul National University, Prof. Dr. Frank Chongwoo Park, Membru, 2010-2011
2	Development of biomimetic design methodology with reverse engineering in cognitive recognition and control of biomimetic robots, Capacități /Modul III – Cooperare bilaterală, Nr ANCS 477/27.XI.2009, Nr. UCv: 54C/19.XI.2009, Partea turca: Atılım University, Ankara, Prof. Dr. Abdülkadir ERDEN, Membru 2010-2011
3	Straightning Basic and engineering science -capacities in South-Eastern Europe -map of excellence for physics and mathematics, contract 14 C/16.06.2010, Membru, 2009-2010
4	Memory: from individual to Society, from Quantum to Cosmos, Program: METANEXUS GLOBAL NETWORK INITIATIVE Catalyst Grant, Financed by John Templeton Foundation,USA, Nr.42C/iun 2009, Resp.tema, 2009-2012
5	The knowledge of Univers: from reality to mental models. Program: Global perspective in Science and Spirituality, Financed by John Templeton Foundation from USA, Partners: Elon University, USA; Universite Interdisciplinaire de Paris, France, Resp. local, 2006-2009

<u>Proiecte Erasmus +</u>	
1	Logistics Technologist (LOT) – new harmonized qualification to unify, regulate and optimize in an innovative concept the disparate logistics activities from a fabrication system - LOGIN, Erasmus+, ANP_CD- EFPComisia europeana, Cod identificare: 2018-1-RO01-KA202-049371, Membru, 2018-2020
2	Digital Manufacturing Master Degree - to set specialists for the dawn of the Industry 4.0 DIGIMAN, Strategic Partnerships, Key Action 2, PROJECT No – 2019-1-RO01-KA203-063486, ERASMUS +, Membru, 2019-2020