

Prof. dr. eng. DANIELA TARNITA
Curriculum vitae



Professor of Mechanisms Theory; Strength of Materials; Biomechanics;
-Head of Department of Applied Mechanics, University of Craiova, Romania;
Head of Biomechanics Research Laboratory, INCESA Research Centre, University of Craiova;
Head of Research Centre in Mechanical Engineering, University of Craiova;
Head of Doctoral School in Mechanical Engineering, University of Craiova;
Member of Committee No.17 of CNATDCU;
Honorific Member of Doctoral School in Mechanical Engineering, University "Dunarea de Jos", Galati.

Fields and research topics:

- Biomechanics;
- Biomedical engineering;
- Robotics;
- Numerical Simulations and Analysis of stresses and deformations for human musculoskeletal system using Finite Element Method;
- Intelligent materials and their applications in medical field;
- Design and optimization for orthopedic devices and implants and for rehabilitation devices.
- Human gait analysis (normal and pathological)
- Nonlinear dynamics applied in biomechanics

1. Studies:

Institution	Period	Obtained degree
"Carol I" High school Craiova	Sept. 1973-June 1977	Baccalaureate diploma
Faculty of Mechanics, Univ. of Craiova	Sept. 1977-July 1982	Mechanical engineer
Faculty of Mechanics, Univ. of Craiova	Dec.1990- June 1996	Ph.D. diploma in Technical Sciences
Faculty of Economic Science, Univ. of Craiova	Sept. 1990-July 1995	Economic informatics diploma

2. Scientific title: Ph. D. Eng. In Technical Sciences - Mechanisms

3. Proficiency in foreign languages: English, French

4. Professional Experience:

Institution	Period	Function
S.U.T.P.I. Craiova	Sept. 1982- Sept. 1984	Trainee Engineer
University of Craiova	Sept. 1984-Sept. 1991	Assist.
University of Craiova	Sept. 1991-Jan. 1997	Lecturer
University of Craiova	Jan.1997-Sept. 2001	Assist. Prof.
University of Craiova	Sept.2001-present	Professor

Professional mobilities:

Institution	Period	Activity
Princeton University, SUA	3 weeks, 2015	Visiting Professor
Harvard University, SUA	3 weeks, 2009	Documentation-research
Harvard University, SUA	3 weeks, 2008	Documentation-research
Duisburg-Essen University, Germany	3 weeks, 2007	Documentation-research
Duisburg -Essen University, Germany	1 week, 2005	Socrates Mobility
Germany	1 week, 2004	Socrates Mobility

5. Awards:

1. **21 gold medals and 3 silver medals** for patents in the medical field obtained at **International Exhibitions of Creativity and Innovation** organized in Romania, Croatia, Poland, Republica Moldova.
2. **Medicine Award - EUROINVENT-** European Exhibition of Creativity and Innovation -May 2014
3. **Woman Inventor Award - EUROINVENT-** European Exhibition of Creativity and Innovation - May 2013
4. **Grand Prize "Eliza Leonida Zamfirescu - A Romanian woman - the first engineer woman in the world"** - International Exhibition of Creativity and Innovation PROINVENT - March 2013
5. **Cyber Future Award – 2017, EUROINVENT**
6. **Trophy “Academician Ana Aslan” – Inventions Exhibition CADET 2017.**
7. **Great Trophy awarded by Inventors Forum of Irak, 2017.**
8. **First prize and Gold Medal awarded by the Polytechnic University of Bucharest for a patent presented at PROINVENT 2017.**
9. **Three Excellence Awards for patents at International Salons of Creativity and Innovation**
10. **Diploma of excellence awarded by National Institute of Chemistry Research, ICECHIM, Bucharest, for a patent presented at EUROINVENT 2013.**

Awards for papers:

11. **The Industrial Robot Innovation Award 2008 Highly Commended, 2008 for the paper: Bizdoacă, N., Tarniță, D.N., Tarniță, Daniela, Application of smart materials: bionics modular adaptive implants, Advances in Mobile Robotics, ISBN-10 981-283-576-8 World Scientific Publishing Co.Pte.Ltd, pag 190-198.**
12. **Award of Excellence for the paper Catana M., Tarnita Daniela., Tarnita D.N., Modeling, Simulation and Optimization of a Human Knee Orthotic Device, Applied Mechanics and Materials, Vol. 371 (2013), pp 549-553, Trans Tech Publications, Switzerland.**
13. **Award of UEFISCDI, 2014 for the paper: Tarnita, Daniela, Marghitu, D., Analysis of a hand arm system, Robotics and Computer-Integrated Manufacturing, Vol. 29, Issue 6, December 2013, Pages 493–501**

***Member of Editorial Board for Journal of Rheumatic Diseases and Treatment-** ClinMed International Library; http://clinmedlibrary.com/Journal-of-Rheumatic-Diseases-and-Treatment/Rheumatic-Diseases-and-Treatment_editorial_board.php

***Member of Biomechanical Engineering Technical Committee of International Federation of Mechanism and Machines.**

***Member of Editorial Board of Bulletin of The “Transilvania” University of Brasov, Series I Engineering Sciences.**

6. Patents: 5;

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

Patent Number: RO128911-A2

Inventor(s): BERCEANU C R; **TARNITA D.**

5. Tuşaliu, P., **Tarniță, D.**, s.a.- Device for Modeling High Voltage Distribution on 750KV Class Insulation Chains -**Certificat de inovator nr.253**, Ministry of Education, 30 sept., 1985.

Applications for patents: 5

1. Orthotic device used for osteoarthritic knee joint,

Patent assignee: **University of Craiova,**

Inventors: **Catana Marius, Tarnita Daniela, Tarnita Danut Nicolae,**

Application number A00821 /2013.

2. Ball and socket type joint for elbow prosthesis,

Application Patent Number: RO129147-A0, A00505 /2013

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

3. Device for progressive rehabilitation of human joints used in orthotic systems,

Inventors: **Petcu Alin Ionel, Tarniță Daniela, Tarniță Dănuț Nicolae,**

Application Patent Number OSIM: A0081/ 14.02.2017.

4. MODULAR-ADAPTIV STEM FOR TOTAL HIP PROSTHESIS, BASED ON INTELLIGENT MATERIALS

Inventors: Tarnita Danut Nicolae, **Daniela Tarnita,**

Application Patent Number: A01023 / 2016

5. Modular exoskeleton for applications in recovery of human lower limb,

Inventors: Geonea Ionut, **Daniela Tarnita,**

Application Patent Number. A00047/30.01. 2017

7. Publications

More than 175 papers in peer reviewed journals, annals and conferences proceedings on different aspects of Biomechanics, Intelligent materials and their applications in medical field and robotics; Design and optimization for orthopaedic implants, Mechanisms Theory, Robotics.

7.1. Chapters in books edit in International Publishing Houses:

1. **Daniela Tarnita**, 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**.
2. Tarniță, Daniela, 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.
3. **Daniela Tarnita**, Marius Georgescu, Dan Tarnita, **Applications of Nonlinear Dynamics to Gait Analysis on Plane & Inclined Treadmill**, New Trends in Medical and Service Robots, Springer Publishing House, Vol 39, pp. 59-73, 2016.
4. **Daniela Tarnita**, 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, ISBN 978-3-319-23832-6, pp 61-77, 2016
5. **Daniela Tarnita**, 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, Springer International Publishing, Editor: Paulo Flores (https://link.springer.com/chapter/10.1007%2F978-3-319-09411-3_71).

6. 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 Vol 24, 2015, Springer International Publishing, pp 709-717, DOI 10.1007/978-3-319-09411-3-75.
7. **Daniela Tarnita**, Marius Catana, Dan 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, editors: A.Rodic, Hannes Bleuler, Doina Pisla
8. **Daniela Tarnita**, C. Berceanu, **Comparison of Human and Artificial Finger Movements**, In **New Trends in Medical and Service Robots**, Mechanisms and Machine Science Volume 16, 2013, pp 221-235 editors: A.Rodic, Hannes Bleuler, Doina Pisla.
9. **Tarnita, Daniela**, Popescu, I., Dan Marghitu, **Creating Artistic Curves with Planar Mechanisms**, **ISI Proceedings of SYROM 2013**, ed. Springer, 2013 pp.233-240, Mechanisms and Machine Science, Vol. 18, ISBN:978-3-319-01844-7, ISBN 978-3-319-01845-4 (eBook), http://link.springer.com/chapter/10.1007/978-3-319-01845-4_23?no-access=true.
10. **Daniela Tarnita**, Marius Catana, Dan Tarnita, **Nonlinear Analysis of Osteoarthritis Process in Virtual Human Knee Joint**, **ISI Proceedings of SYROM 2013**, ed. Springer, pp. 225-232, 2013, Mechanisms and Machine Science, Vol.18, ISBN:978-3-319-01844-7, ISBN 978-3-319-01845-4 (eBook), http://link.springer.com/chapter/10.1007/978-3-319-01845-4_23?no-access=true.
11. **Tarnita D.**, Tarnita D.N, Bolcu, D., **Orthopedic implants based on shape memory alloys**, chapter in **Biomedical Engineering – From Theory to Applications**, in **InTech Publishing House**, Viena ISBN: 978-953-307-283-8, 2011, pp.431-468, <http://www.intechopen.com/books/references/biomedical-engineering-from-theory-to-applications/orthopaedic-modular-implants-based-on-shape-memory-alloys>.
12. **Tarnita, Daniela**, Popa, D., Dumitru, N., Tarnita, D.N., Mărcuşanu, 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.
13. Berceanu, C., **Tarnita, Daniela**, Dumitru, S., Filip, D., **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.
14. Bîzdoacă. N., **Tarniță, Daniela**, et al., **Biomimetic approach to design and control mechatronics structure using smart materials**, chapter in "Robotics, Automation and Control", ISBN 978-953-7619-39-8, **InTech Publishing House**, pp 431-465, Viena, 2009, <http://www.intechopen.com/books/howtoreference/contemporary-robotics-challenges-and-solutions/biomimetic-approach-to-design-and-control-mechatronics-structure-using-smart-materials>.
15. Bîzdoacă, N., Tarniță, D.N., **Tarniță, Daniela**, **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 –*The Industrial Robot Innovation Award Highly Commended, 2008*.
16. **Tarnita, Daniela**, Tarnita, D.N., Bizdoaca, N., Cismaru, F., **Modular orthopedic devices based on shape memory alloys**, **ISI Proceedings Ed. Springer**, The 10th IFToMM International Symposium on Science of Mechanisms and Machines, SYROM'09, pp.709-721, 2009, http://link.springer.com/chapter/10.1007/978-90-481-3522-6_60?no-access=true.

7.2. Books in National Publishing Houses

1. **DANIELA TARNITA**, DUMITRU BOLCU, *Elements of mechanics and strength of materials*, Universitaria Publishing House, Craiova, 2012.
2. **DANIELA TARNITA**, *Elements of mechanical engineering and strength of materials*, Universitaria Publishing House, Craiova, 2012.
3. **DANIELA TARNIȚĂ** - *Mechanisms actuated by springs. Methods for dynamic analysis and synthesis*, Universitaria Publishing House, Craiova, 1998.
4. DUMITRU BOLCU, **DANIELA TARNITA**, *Methods for kinetostatics analysis of plane mechanisms*, EDP, Bucharest, 2009.
5. **DANIELA TARNITA**, DUMITRU BOLCU, *Methods for kinematical analysis of planar mechanisms*, Didactic and Pedagogic Publishing House, Bucharest, 2005 ISBN 973-30-1485-0.
6. **DANIELA TARNIȚĂ** -*Statistics. Theory and applications*, Universitaria Publishing House, Craiova, 2004.

7. DUMITRU BOLCU, DANIELA TARNIȚĂ- *Elements for composite structures calculus and modeling*, Universitaria Publishing House, Craiova, 2001.
8. DANIELA TARNIȚĂ- *Problem-sets –Strength of Materials*, Sitech Publishing House, Craiova, 1999.
9. Tarnita Daniela, Grigorie Laura, Malciu Raluca, *Mecanisme- Indrumar de laborator*, Universitaria Publishing House, 2017.

Editor of the book „Current Solutions in Mechanical Engineering” (576 pages) published in Trans Tech Publishing House, Elvetia, Volume 823 of Applied Mechanics and Materials, ISSN print 1660-9336, ISSN cd 1660-9336, ISSN web 1662-7482

7.3. Papers (selection)

7.3.1. Papers in ISI journals

1. Tarnita, D., D-B MARGHITU, **Nonlinear dynamics of normal and osteoarthritic human knee**, Proceedings of the Romanian Academy, pp. 353-360, 2017.
2. Geonea, I., Tarnita, D., **Design and evaluation of a new exoskeleton for gait rehabilitation**, Mechanical Sciences, 8(2), pp 307-322, 2017.
3. 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, 58(3), pp. 831-836, 2017.
4. Tarnita, Daniela, **Wearable sensors used for human gait analysis**, Rom J Morphol Embryol 2016, 57(2), pp 373-382.
5. 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.
6. 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.
7. Tarnita, Daniela, Marghиту, 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.
8. Tarnita, Daniela, Catana, M., Tarnita, D.N., **Experimental measurement of flexion-extension movement in normal and osteoarthritic human knee**, Romanian Journal of Morphology and embryology, 54(2):309–313, 2013, <http://www.rjme.ro/RJME/resources/files/540213309313.pdf>.
9. 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.
10. 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.
11. 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, Wiley-Vch, 41 (12), 1070-1080, DOI 10.1002/mawe.201000711, 2010, <http://onlinelibrary.wiley.com/doi/10.1002/mawe.201000711>.
12. 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.
13. Tarnita, D., Tarnita D.N., Grecu D., Popa, D., Rusu, F.*, **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.
14. Tarnita D., Boborelu, C., Popa, D., Rusu, L., **The three-dimensional modeling of the complex virtual human elbow joint**, Romanian Journal of Morphology and embryology, Vol 51, No.3, pp 489-495, 2010, <http://www.rjme.ro/RJME/resources/files/510310489495.pdf>.
15. Tarnita, D., Tarnita, D.N., Popa D., Grecu, D., Niculescu, D., **Numerical simulations of human tibia osteosynthesis using modular plates based on Nitinol staples**, Romanian Journal of Morphology and embryology, Vol 51, No.1, pp 145-150, 2010, <http://www.rjme.ro/RJME/resources/files/510110145150.pdf>.
16. 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, No2, pp. 315-320, 2010, <http://www.rjme.ro/RJME/resources/files/510210315320.pdf>.

17. **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., ISSN 0933-5137, Vol.40, No.1-2, 2009, pp73-81, <http://onlinelibrary.wiley.com/doi/10.1002/mawe/>.
18. **Tarnita, D.**, Tarnita, D.N., Bizdoaca, N., C Tarnita, C. Berceanu, C. Boborelu, **Modular adaptive bone plate for humerus bone osteosynthesis**, Romanian Journal of Morphology and embryology, Vol. 50(3), pp. 447-452 ISSN 1220-0522, 2009, <http://www.rjme.ro/RJME/resources/files/500309447452.pdf>.
19. **Tarnita, D.**, Tarnita, D. N., et al., **Properties and Medical Applications of Shape memory Alloys**; Romanian Journal of Morphology and embryology, Vol. 50. No.1, pp.15-22, 2009 (40 citations), <http://www.rjme.ro/RJME/resources/files/500109015021.pdf>.
20. **Tarnita, D.**, Popa, D., Tarnita, D. N., Grecu, D., **CAD method for 3D model of the tibia bone and study of stresses using the finite element method**, Romanian Journal of Morphology and Embryology, Vol. 47. No.2, pp.181-186, ISSN 1220-0522, 2006, <http://www.rjme.ro/RJME/resources/files/470206181186.pdf>.
21. Bizdoaca, N., **Tarnita, D.**, Tarnita, D. N., **Modular adaptive implant based on smart materials**, Romanian Journal of Morphology and embryology, Vol.49. No.4, pp.507-512, 2008, <http://www.rjme.ro/RJME/resources/files/490408507512.pdf>.
22. **Tarniță, D.**, Popa, D., **Tarniță, D.N.**, Grecu, D., Negru, M., **The virtual model of the prosthetic tibial components**, Romanian Journal of Morphology and embryology, 2006, 47(4):339-344, <http://www.rjme.ro/RJME/resources/files/470406339344.pdf>.
23. **Tarniță, D.N.**, **Tarniță, D.**, Popa, D., **Analysis of stress and displacements of phalanx bone with the finite element method**, in Romanian Journal of Morphology and embryology, vol. 46 no. 3, pp 189-192, 2005, <http://www.rjme.ro/RJME/resources/files/460305189191.pdf>
24. Popa, D., Tarnita, D.N., **Tarnita, D.**, Grecu, D., **The generation of the three-dimensional model of the human knee joint**, in Romanian Journal of Morphology and embryology, vol.46 no.4, pp.3-6, 2005, <http://www.rjme.ro/RJME/resources/files/460405279281.pdf>.

7.3.2 Papers in Proceedings ISI, BDI Journals

1. **TARNITA Daniela**, MARGHITU D., CRACIUNOIU N., **Wavelet Analysis of Humans with Osteoarthritis**, Applied Mechanics and Materials. Vol. 823, 155-160, 2016, www.scientific.net/AMM.823.155.
2. Degeratu, S., **Tarnita, D.**, et al, **Experimental investigation of a barrier structure based on a Shape Memory Alloy actuator**, OPTIM 2017 IEEE Conference, 102-108, mai 2017
3. **TARNITA Daniela**, 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
4. **Daniela Tarnita**, Dan Calafeteanu, Marius Catana Ionut Geonea, Dan Tarnita, **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.
5. Calafeteanu, **Daniela Tarnita**, M. Catana, D. Calin and D.N. Tarnita, **Influences of Antero-Posterior Tibial Slope on the Prosthetic Knee Contact Stresses**, Applied Mechanics and Materials, Vol. 823, 137-142, 2016, www.scientific.net/AMM.823.137.
6. D. Calafeteanu, **Daniela Tarnita**, M. Catana and D. N. Tarnita, **Influences of Varus Tilt on the Stresses in Human Prosthetic Knee Joint**, Applied Mechanics and Materials, Vol. 823, 143-148, 2016, www.scientific.net/AMM.823.143
7. D. Calin, **Daniela Tarnita**, D. Popa, A. Rosca and D. N. Tarnita, **The 3D Virtual Model of a Classical Hip Joint Prosthesis**, Applied Mechanics and Materials, Vol. 823, 161-166, 2016, www.scientific.net/AMM.823.161.
8. D. Calin, **Daniela Tarnita**, D. Popa, D. Calafeteanu and D.N. Tarnita **Virtual Model and Simulation of the Normal and Affected Human Hip Joint**, Vol. 823, 167-172, 2016, www.scientific.net/AMM.823.167.
9. M. Georgescu, A. Petcu, **D. Tarnita**. **Nonlinear movement of human knee overground & on treadmill**. *Bulletin of the Transilvania University of Brasov*, 2016, 9 (58) No.2, pp 125-132.
10. Petcu, D., Calafeteanu, D. Georgescu, M., **D. Tarnita**. **Kinematics and kinetics of healthy and osteoarthritic knee during walking stairs**. *Bulletin of the Transilvania University of Brasov*, 2016, 9 (58) No. 2 pp 203-208.

11. 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, oct, DOI Number: 10.6567/IFToMM.14TH.WC.OS1.008
12. **Tarnita, Daniela**, 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>.
13. **Tarnita, Daniela**, Catana, M., Tarnita, D.N, **Stresses and Displacements for Virtual Models of Healthy and Osteoarthritic Knee Joint**, Applied Mechanics and Materials Vol. 658 pp 526-531, 2014, www.scientific.net/AMM.658.526.
14. **Tarnita Daniela**, Calafeteanu D., Matei I, Tarnita D.N, **Experimental Measurement of Flexion-Extension in Normal and Osteoarthritic Knee During Sit-to-Stand Movement**, Applied Mechanics and Materials Vol. 658 (2014) pp 520-525, www.scientific.net/AMM.658.520.
15. **Daniela Tarnita**, Marius Catana, Dan Tarnita, **Modeling and Finite Element Analysis of the Human Knee Joint Affected by Osteoarthritis**, in Key Engineering Materials, vol. 601, pp. 147-150, 2014, [://www.scientific.net/KEM.601.147.D](http://www.scientific.net/KEM.601.147.D).
16. Dan Grecu, Dan Tarnita, **Daniela Tarnita**, and D.R. Nita, Our Experience with Alumina on Alumina weight bearing in everyday orthopedic practice, Key Engineering Materials Vol. 614 (2014) pp 212-217, www.scientific.net/KEM.601.212.
17. Catana M., **Tarnita Daniela**, Tarnita D.N., **Modeling, Simulation and Optimization of a Human Knee Orthotic Device**, Applied Mechanics and Materials, Vol. 371 (2013), pp 549-553, Trans Tech Publications, Switzerland, doi:10.4028 /www.scientific.net/AMM.371.549
18. Catana M., **Tarnita Daniela**, Diorduc, V., **Virtual Simulation of Plastic Injection Technology for Medical Devices**, Applied Mechanics and Materials Vol. 371, 2013 pp 529-533, Trans Tech Publications, Switzerland, doi:10.4028 /www.scientific.net/AMM.371.529
19. **Tarnita Daniela**, Catana, M., Tarnita, D.N., **Nonlinear Analysis of Normal Human Gait for Different Activities with Application to Bipedal Locomotion**, Ro. J. Tech. Sci. Appl. Mech., Volume 58, N° 1-2, pp. 177–192, Bucharest, 2013, http://www.imsar.ro/RO_APPLIED_MECH_2013_nr1_2.pdf.
20. **Tarnita, D.** Tarnita, D.N., Boborelu, C., Catana, M., **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.
21. Berceanu, C., **Tarnita, D.**, **Mechanical Design and Control Issues of a Dexterous Robotic Hand**, Advanced Materials Research Vols. 463-464 (2012) pp 1268-1271, Online available since 2012/Feb/10, (2012) doi:10.4028/www.scientific.net/AMR.463-464.1268, 2012.
22. 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.
23. 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.
24. M. Catana, **D. Tarnita**, **The three-dimensional modeling of the complex virtual human knee joint**, Bulletin of the Polytechnic Institute Iasi, Tomul LVIII (LXII) Fasc. 3 (2012), 303-308. <http://journals.indexcopernicus.com/passport.php?id=3558>
25. **Tarnita D.** Tarnita, D.N, Cismaru Fl., Berceanu, C., Catana, M., **Experiments – in vitro-regards long bone fractures using modular components based on materials with memory shape**, Journal of Rom. Sports Medicine Society, No 23, Suppl.3, pp.579-583, 2010, http://www.medicinasportiva.ro/SRoMS/english/Journal/Sport_Medicine_Journal_No_23.
26. Berceanu, C., **Tarnita, D.**, **Aspects Regarding the Fabrication Process of a New Fully Sensorized Artificial Hand**, MODTECH 2010: New face of TMCR, Proceedings of the International Conference ModTech, pp 123-126, 2010.
27. Bîzdoacă Nicu, Dan Tarnita, Daniela Tarnita, et al – **Modular Adaptive Bionics Structure – WSEAS Transactions on Biology and Biomedicine Journal**, 2008, pag 229-238, Issue 9, Volume 5, 2008, ISSN: 1109-9518 (ID.31-464), <http://www.wseas.us/e-library/transactions/biology/2008/28-791.pdf>.
28. Berceanu, C., **Tarnita, D.**, **A new fabrication method for a computer controlled artificial hand with electric actuators**, International Journal of Modern Manufacturing Technologies, ISSN 2067–3604, Vol. I, No. 1 / 2009, pp 13, <http://www.modtech.tuiasi.ro/vol1no12009.php>.
29. **Tarniță, D.**, Boborelu, C., Popa, D., Berceanu, C., Tarniță, D. N., **Numerical simulations of the diaphyseal fractures of the human humerus bone using modular plates based on Nitinol**, Journal of Romanian

- Sports Medicine Society, Vol.VI, No2, pp.1380-1389, ISSN 1841-0162, http://www.medicinasportiva.ro/SRoMS/english/Journal/Sport_Medicine_Journal_No_18, 2009.
30. Berceanu, C., Tarnita, D., **About the Kinematics and Control System of an Anthropomorphic Hand Usable as Prosthesis**, UPB Scientific Bulletin, Series D, Vol.73, Issue 1, 2011, ISSN 1454-2358, http://www.scientificbulletin.upb.ro/SeriaD_-_Inginerie_Mecanica.php.
 31. Tarnita, D., Popa D., Tarnita, D. N., Bizdoaca, N., **Considerations on the dynamic simulation of the 3D model of the human knee joint**, BIO Materialien Interdisciplinary Journal of Functional Materials, Biomechanics and Tissue Engineering, pp 231, ISSN 1616-0177, VNM Science Publishing GmbH & Co. KG, Postfach 46 08 05, D-80916, München, [Fachinformation Technik – Literaturnachweise aus der Datenbank TEMA Technik und Management](#), ISSN 1616-0177, 2006.
 32. Tarnita, Daniela; Tarnita, Dan; Bizdoaca, Nicu; Grecu, Dan; Tarnita, Corina; Berceanu, C., Boborelu, C., **Modular orthopedic implants for arm bones based on shape memory alloys**, ISI Proceedings of The 20th International DAAAM Symposium, “Intelligent Manufacturing & Automation: Theory, Practice & Education”, nov., Viena, Austria, 2009.
 33. Bizdoaca, N. G., Tarnita, Daniela, Petrisor, Anca; Diaconu, Ilie; Bizdoaca, Elvira, **Control and design for biomimetics application using smart materials**, ISI Proceedings of The 20th International DAAAM Symposium, “Intelligent Manufacturing & Automation: Theory, Practice & Education”, Viena, 2009.
 34. Tarnita, D., Tarnita, Dan; Bizdoaca, N; Negru, M & Copilus, C., **Modular orthopedic implants for forearm bones based on shape memory alloys**, In ISI Proceedings of The 19th International DAAAM Symposium, “Intelligent Manufacturing & Automation: Focus on Next Generation of Intelligent Systems and Solutions”, ISSN 1726-9679, ISBN 978-3-901509-68-1, oct. Trnovo, Slovakia, 2008
 35. Bizdoacă N G, Dan Tarnita, Daniela Tarnita, D. Popa, Bizdoacă Elvira – **Shape memory alloy based Modular Adaptive Orthopedic Implants**, New Aspect of Biomedical Electronics and Biomedical Informatics, pag. 188-196, ISSN: 1790-5125, ISBN: 978-960-6766-93-0, 2008.
 36. Tarnita, D. N. Tarnita, F. et al, Numerical Simulation of the human femur osteosynthesis using modular plates based on smart materials, **BIO Materialien Interdisciplinary Journal of Functional Materials, Biomechanics and Tissue Engineering**, VNM Science Publishing GmbH&Co. München, [Fachinformation Technik- Litera-turnachweise aus der Datenbank Technik und Management](#), 2010.
 37. Tarnita, D., Popa D., Tarnita, D. N., Bizdoaca, N., **Considerations on the dynamic simulation of the 3D model of the human knee joint**, BIO Materialien Interdisciplinary Journal of Functional Materials, Biomechanics and Tissue Engineering, pp 231, VNM Science Publishing GmbH & Co. KG, München, [Fachinformation Technik – Literaturnachweise aus der Datenbank Technik und Management](#), 2006.
 38. Tarnita, D., Popa, D., Tarnita, D. N., **The CAD method used for Three-dimensional model of the tibial prosthesis element**, pp. 719-724, ACTA Technica Napocensis; Applied Mathematics and Mechanics, ISSN 1221-5872, 2006, <http://atna-mam.utcluj.ro>
 39. Popa, D., Tarnita, D, Tarnita, D.N., **The kinematical and dynamical simulation of the human knee joint in the classical locomotion types**, 2006, Cluj-Napoca, Romania, pp. 707-714, ACTA Technica Napocensis; Applied Mathematics and Mechanics, ISSN 1221-5872, 2 006, <http://atna-mam.utcluj.ro>
 40. Tarnita. D., Bolcu, D., **Contributions on the numerical determination of the elastic coefficients of a wavy plate**, Buletinul Stiintific al Institutului Politehnic din Iasi. Tomul LII, Fascicula 7B, pp 231-236, 2006, ISSN 1011-2855, <http://www.cm.tuiasi.ro/buletinul-ipi/sectia-cm/>
 41. Popa, D., Iordachita, I., Tarnita, D., **Study Method For Human Knee Applicable To Humanoid Robots**, **International Workshop on Robotics in Alpe-Adria-Danube Region, RAAD** may, 2005, pp.485-490,
 42. Tarnita, D, Bolcu, D, **Dynamic Balancing of the Mechanisms of Robots using Springs**, Bulletin of the Transilvania Univ. of Braşov, pp 113-118, Brasov Vol.15(50) Series A, , Special Issue No.1, Vol.2, 2008, <http://webbut.unitbv.ro/Bulletin/Series%20I/Series%20I.html> in EBSCO Publishing DataBase

8. Member of the following professional associations:

- Romanian Association of Mechanism and Machine Theory (**president-branch Craiova**);
- Romanian Association of Tensometry;
- Romanian Society of Biomaterials;
- Romanian Society of Theoretic and Applied Mechanics;
- Romanian Society of Robotics;
- Romanian Association of Mechanical Transmissions and Machine Parts;
- National Consortium of Economic Engineering in Romania (founder member).

9. Member of the scientific and/or organizing committee for:

- IFToMM International Symposium on Science of Mechanisms and Machines, SYROM 2017
- President of International Conference of Mechanical engineering, 2015, Craiova;
- President of International Workshop “From Biological Systems to Robotic Structures” 2012
- Congress of Automotive, SMAT 2008, Craiova
- Advanced Concepts on Mechanical Engineering - ACME 2010, 2012, 2014, 2016, Iasi
- International Conference of Mechanical engineering, ICOME 2010, 2013, 2015, 2017, Craiova
- International Conference on Advancements of Medicine and Health Care through Technology, 2011
- MESROB -Medical and Service Robotics International Workshop–Lausanne 2014
- MESROB -Medical and Service Robotics International Workshop–Nantes 2015
- MESROB -Medical and Service Robotics International Workshop–Graz 2016
- MESROB -Medical and Service Robotics International Workshop–Casino 2018
- 21st Congress of the European Society of Biomechanics, July 5 - 8 2015, Prague, Czech Republic
- 1st Central & Eastern European Conference on Thermal Analysis and Calorimetry, 2011, Craiova
- Matter and Materials for Heritage Conservation International Conference, 2011, Craiova.

10. Reviewer for: „Robotics and Computer-Integrated Manufacturing”, Transactions on Mechatronics, Revue Roumaine de Meccanique Appliquee, “Australasian Physical & Engineering Sciences in Medicine” Journal, “Annals of Biomedical engineering”, “Central European Journal of Engineering”, Springer Publishing House, Industrial Robot Journal, Key Engineering Materials, Applied Mechanics and Materials.

11. Experience in national or international projects:

Program / Project	Function	Period
Partner-sheep Ford Romania – University of Craiova for transfer and implementation of Ford Eco-Technologies to realise of EcoSport model in Craiova- PN III Bridge Grant	Member	2016-2018
International Workshop “ From Biological Structures Inspiration to Robotic Structures	Director	5-6 July 2012
Development of biomimetic design methodology with reverse engineering in cognitive recognition and control of biomimetic robots/ International Bilateral Project with Atilim University - Ankara – Turkey	member	2010-2011
Reverse Engineering in Cognitive Recognition And Control Of Biomimetics Structures, International Bilateral Project with Seoul National University	member	2010-2011
The knowledge of Universe: from reality to mental models. Program: Global perspective in Science and Spirituality Financed by John Templeton Foundation from USA, Partners: Elon University from USA; Universite Interdisciplinaire de Paris, Memory: from individual to Society, from Quantum to Cosmos Program: METANEXUS GLOBAL NETWORK INITIATIVE Catalyst Grant Financed by John Templeton Foundation from USA	Local responsible in field	2006-2009
Modular adaptive orthopaedic implants based on smart materials –PNCIDI Idei 92	director	2007-2010
The control and technological integration of the intelligent materials and structures CEEEX –259–CITMSI, 2007, signed by CCMR- UCv,	Responsible in field	2006-2008
National technologic platform of spatial dynamics; CEEEX- Stage III PC-D09-PT22-652, signed by National Institute of research and development for laser, plasma and radiation physics – INFLPR,	member	2005-2007
Parametric CAD/CAE system for simulation and analysis of the mechanical an kinematical characteristics of the human knee (CNCSIS)	director	2004-2005
Contribution on the analysis and synthesis of the mechanisms actuated by springs. No.14C/C12/1994. Contract signed with Education Ministry	director	1994

Grants in research-development of infrastructure - Structural Funds from EU

Program/Project	Responsibility	Period
Research Infrastructure for Applied Sciences –INCESA, University of Craiova	Head of Biomechanics Research Laboratory	2010-2014