

**Prof. dr. eng. DANIELA TARNITA**  
**Curriculum vitae**



**Professor of Mechanisms Theory; Strength of Materials; Biomechanics;**

**Head of Doctoral School in Mechanical Engineering, University of Craiova;**

**Head of Biomechanics Research Laboratory, INCESA Research Centre, University of Craiova;**

**Head of Research Centre in Mechanical Engineering, University of Craiova;**

**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:**

<b>Institution</b>	<b>Period</b>	<b>Obtained degree</b>
”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 Engineering Sciences**

**3. Proficiency in foreign languages: English, French**

**4. Professional Experience:**

<b>Institution</b>	<b>Period</b>	<b>Function</b>
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:**

<b>Institution</b>	<b>Period</b>	<b>Activity</b>
Princeton University, SUA	1 week, 2016	Visiting Professor
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	Visiting Professor
Germany	1 week, 2004	Socrates Mobility

## 5. Awards for patents:

1. **24 gold medals** for patents in the medical field obtained at **International Exhibitions of Creativity and Innovation in period 2013-2018.**
2. **The Best International Invention of Social and Quality of Life - Salon International de inventii, IPITEX, Bangkok, feb. 2018**
3. **Special Honour of Invention** – awarded by **Toronto International Society of Innovation & Advanced Skills, Canada, 2018;**
4. **Genius Award & Gold medal** – awarded by **Citizen Innovation Association, Singapore, 2018.**
5. **British Innovation Award** – awarded by **Association of British Inventors and Innovations, Great Britain, 2018;**
6. **Special Award and Gold Medal** – awarded by **Malaysian Research & Innovation Society, Malaysia, 2018.**
7. **Honor of Invention and Gold Medal** – awarded by **World Invention Intellectual Property Associations, 2018;**
8. **Award for International Innovation Achievements** - awarded by **Haller Pro Invention Foundation, Polonia, 2018.**
9. **Medicine Award - EUROINVENT-** European Exhibition of Creativity and Innovation -May 2014
10. **Woman Inventor Award - EUROINVENT-** European Exhibition of Creativity and Innovation -May 2013
11. **Grand Prize "Eliza Leonida Zamfirescu - A Romanian woman - the first engineer woman in the world" -** International Exhibition of Creativity and Innovation PROINVENT - March 2013
12. **Cyber Future Award –EUROINVENT, may, 2017**
13. **Trophy “Academician Ana Aslan” – Inventions Exhibition CADET 2017.**
14. **Great Trophy awarded by Inventors Forum of Irak, 2017.**
15. **First prize and Gold Medal awarded by the Polytechnic University of Bucharest, 2017.**
16. **Three Excellence Awards for patents at International Salons of Creativity and Innovation**
17. **Gold Medal- China International Exhibition of Inventions – China (Shanghai) -may 2017**
18. **Gold Award- Malaysia Research and Innovation Society- Kuala Lumpur, Malaysia, april 2017**
19. **Gold Medal – Salon Inventii Katowice, INTARG 2017, Katowice, Poland, iunie, 2017**
20. **Gold Medal – Salon Inventii, Croatia, nov 2017.**
21. **Gold Medal – Salon Inventii INFOINVENT, Chisinau, Moldova, nov. 2017**

## Awards for papers:

*1. 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.*

*2. 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.*

*3. 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*

*4. The Bronze Best Research Paper Award pentru lucrarea: Tarnita D., Georgescu, M, Geonea, I, Petcu, A., Tarnita, D.-N., Nonlinear Analysis of Human Ankle Dynamics – awarded by IFToMM and International Committee Award for MESROB 2018, Cassino, Italy, 2018*

*5. Award of UEFISCDI, for the paper: Tarnita, D., Marghitu, D, Nonlinear dynamics of normal and osteoarthritic human knee, Proceedings of the Romanian Academy, pp. 353-360, 2017*

## 6. Patents:

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.Ball and socket type joint for elbow prosthesis,**

Patent Number: RO129147-A0, /2018

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

6.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:**

### **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. 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.

### **3.MODULAR-ADAPTIV STEM FOR TOTAL HIP PROSTHESIS, BASED ON INTELLIGENT MATERIALS**

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

Application Patent Number: A01023 / 2016

### **4.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 150 papers in peer reviewed journals 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 and Machines Theory, Robotics.

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

### **7.1. Papers (selection)**

#### **7.1.1 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,** 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.
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](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](http://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](http://www.joam.inoe.ro/index.php).
13. **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>.
14. **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>.
15. **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>.
16. **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, Wiley-Vch., ISSN 0933-5137, Vol.40, No.1-2,* 2009, pp73-81, <http://onlinelibrary.wiley.com/doi/10.1002/mawe/>.
17. **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>.
18. **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>.
19. **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>.
20. 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>.
21. **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>.

22. 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>
23. 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>.

### 7.1.2 Papers in Proceedings ISI, Scopus, and other BDI Journals

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](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 Vol 16, 2013, pp 221-235
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.
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](http://link.springer.com/chapter/10.1007/978-3-319-01845-4_23?no-access=true).
11. **Tarnita, Daniela**, 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.
12. Berceanu, C., **Tarnita, Daniela**, Dumitru, S., Filip, D., **Forward and Inverse Kinematics Calculation for an Anthropomorphic Robotic Finger**, 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](http://link.springer.com/chapter/10.1007/978-90-481-9689-0_39?no-access=true).
13. 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**, pp. 190-198.
14. **Tarnita, Daniela**, Tarnita, D.N., Bizdoaca, N., Cismaru, F., **Modular orthopedic devices based on shape memory alloys**, ISI Proceedings Ed. Springer, The 10<sup>th</sup> IFToMM International Symposium on Science of Mechanisms and Machines, SYROM'09, pp.709-721, 2009.
15. 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

16. 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
17. **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>.
18. **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](http://www.scientific.net/AMM.658.520).
19. **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).
20. 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
21. 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
22. **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](http://www.imsar.ro/RO_APPLIED_MECH_2013_nr1_2.pdf).
23. **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](http://www.eng.upt.ro/auif/Lucrari_PDF_2013_1/Tarnita.pdf).
24. 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.
25. 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](http://www.scientific.net/SSP.166.51).
26. 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](http://www.scientific.net/SSP.166.45).
27. 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.
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](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.scientific\\_bulletin.upb.ro/SeriaD\\_-\\_Inginerie\\_Mecanica.php](http://www.scientific_bulletin.upb.ro/SeriaD_-_Inginerie_Mecanica.php).

## 7.2.Chapters in books edit in International Publishing Houses:

1. **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>.
2. Bizdoacă. 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>.

### 7.3. 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. 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 Inventors Forum;

#### 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
- 21<sup>st</sup> 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

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

**Member of Editorial Board for Journal of Rheumatic Diseases and Treatment- ClinMed International Library**

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

**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, Springer Publishing House, Industrial Robot Journal, Proceedings of the Romanian Academy- Part A; Mechanical Sciences; Journal of Bionic Engineering; Journal of ASME; Key Engineering Materials, Applied Mechanics and Materials.

#### 11. Experience in national or international projects:

Program / Project	Function	Period
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_BG92	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,	Local responsible in field	2006-2009
Memory: from individual to Society, from Quantum to Cosmos Program: METANEXUS GLOBAL NETWORK INITIATIVE Catalyst Grant Financed by John Templeton Foundation from USA	member	2009-2012
Modular adaptive orthopaedic implants based on smart materials –PNCDI Idei_92	director	2007-2010
The control and technological integration of the intelligent materials and structures CEEX –259–CITMSI, 2007, signed by CCMR- UCv,	Responsible in field	2006-2008
National technologic platform of spatial dynamics; CEEX- 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 and 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**

<b>Program/Project</b>	<b>Responsibility</b>	<b>Period</b>
Research Infrastructure for Applied Sciences –INCESA, University of Craiova	Head of Biomechanics Research Laboratory	2010-2015