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;

Associate Editor of Robotica Journal, Cambridge Publishing House,

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	1973- 1977	Baccalaureate diploma
Faculty of Mechanics, Univ. of Craiova	1977- 1982	Mechanical engineer
Faculty of Mechanics, Univ. of Craiova	1990- 1996	Ph.D. diploma in Technical Sciences
Faculty of Economic Science, Univ. of Craiova	1990- 1995	Economic informatics diploma

2. Professional Experience:

Institution	Period	Function
University of Craiova	1984- 1991	Assist.
University of Craiova	1991- 1997	Lecturer
University of Craiova	1997- 2001	Assist. Prof.
University of Craiova	2001-present	Professor

Professional mobilities:

Institution	Period	Activity
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

3. Member of International Juries of Inventions Salons:

1. International Salon of scientific research, innovation and invention, Clu-Napoca: PROINVENT 2016, PROINVENT 2017, PROINVENT 2018, PROINVENT 2019, PROINVENT 2021.

2.EUROPEAN EXHIBITION OF CREATIVITY AND INNOVATION, IASI: EUROINVENT 2017, EUROINVENT 2018, EUROINVENT 2019, EUROINVENT 2021, EUROINVENT 2022.

4. Member of the Scientific Commitees:

- International Symposium SYROM 2017, Brasov
- International Conference of Mechanical engineering, Craiova: ICOME 2021, ICOME 2016, ICOME 2013, ICOME 2010
- Advanced Concepts on Mechanical Engineering, Iasi - ACME 2010, - ACME 2012, ACME 2014, ACME 2016, ACME 2018, ACME 2020, ACME 2022.
- PRASIC 2016, Brasov, - PRASIC 2018, Brasov
- International Conference on Advancements of Medicine and Health Care through Technology, 2011, Cluj-Napoca
- MESROB -Medical and Service Robotics International Workshop–Lausanne 2014, Nantes 2015, Graz 2016, Cassino, 2018, Basel 2020, Basel 2021, -21st Congress of the European Society of Biomechanics, July 2015, Prague, Czech Republic

5. <u>Patents</u>:

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**

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**

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**

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.Orthotic device used for osteoarthritic knee joint, Patent number 132075 /2019.

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

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

Applications for patents:

1. Device for progressive rehabilitation of human joints used in orthotic systems,
Inventors**: Petcu Alin Ionel, Tarniță Daniela, Tarniță Dănuț Nicolae,** Application Number: A0081/ 2017.

2.MODULAR-ADAPTIV STEM FOR TOTAL HIP PROSTHESIS, BASED ON INTELLIGENT MATERIALS
Inventors: Tarnita Danut Nicolae, **Daniela Tarnita,** Application number: A01023 / 2016.

3. Modular exoskeleton for applications in recovery of human lower limb, Inventors: Geonea Ionut, Daniela Tarnita, Patent application No. A00047/30.01. 2017**.**

4. Device used for osteosynthesis and compaction of long bones fractures

Inventors: **Daniela Tarnita, Danut Nicolae Tarnita,** Application number: 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, cerere înregistrată la OSIM cu numărul A00233/2019 din 10.04. 2019.

6. AUTOMATIC, MODULAR ARCHITECTURE, WITH COOPERATIVE FACILITIES, Dan Andrițoiu, Horațiu Roibu, Lidia Băzăvan, **Daniela Tarniță**, Nicu George Bîzdoaca, Application number A00174 / 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 Bîzdoacă, Application number A00213 / 8.04. 2019.

8. SMART FLUID BASED VARIABLE GEOMETRY WHEEL, Pană Cristina Floriana, Vladu Ionel Cristian, Pătrașcu Pană Daniela Maria, Manta Liviu Florin, Cojocaru Dorian, **Daniela Tarniță**, Nicu Bîzdoacă, application number A00212 / 8.04. 2019.

6. Awards for patents:

1. **54 gold medals** for patents in the medical field obtained at **International Exhibitions of Creativity and Innovation in period 2013-2022**.
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 Btitain,** 2018;
6. **Special Award and Gold Medal** –awarded by **Malaysian Research & Innovation Society, Malaezia**, 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 - 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.**

Awards for papers:

1. The Best Application Paper Gold Award pentru lucrarea Development of a New Knee Endoprosthesis and Finite Element Analysis of Contact Stress, awarded by *IFToMM and International Committee Award for MESROB 2021, Basel, Switzerland*

2.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**

3. The Industrial Robot Innovation Award 2008 Highly Commended, 2008 for the paper: Bîzdoacă, N., Tarniţă, D.N., **Tarniţă**, **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**.**

4.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.

5. Certificate of Excellence to Daniela Tarnita awarded for the paper Numerical simulations and Finite Element Analysis of Contact Stresses in Normal, Osteoarthritic and Orthotic Knee, BIOREMED 2019, Craiova, 2019

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

7.1.1.Papers in ISI journals

1. Geonea, I.D.; **Tarnita, D**.; Pisla, D.; Carbone, G.; Bolcu, A.; Tucan, P.; Georgescu, M.; Tarniță, D.N. Dynamic Analysis of a Spherical Parallel Robot Used for Brachial Monoparesis Rehabilitation. *Appl. Sci.* **2021**, *11*, 11849. https://doi.org/10.3390/app112411849 (Q2).
2. Pisla, D.; **Tarnita, D**.; Tucan, P.; Tohanean, N.; Vaida, C.; Geonea, I.D.; Bogdan, G.; Abrudan, C.; Carbone, G.; Plitea, N. A Parallel Robot with Torque Monitoring for Brachial Monoparesis Rehabilitation Tasks. *Appl. Sci.* **2021**, *11*, 9932. https://doi.org/10.3390/app11219932 (Q2).
3. Savu, S.V.; Marin, R.C.; David, A.; Olei, A.B.; Dumitru, I.; **Tarnita, D.;** Maternova, A.; Savu, I.D. Reducing NOx Emissions through Microwave Heating of Aftertreatment Systems for Sustainable Transport in the Inland Waterway Sector. *Sustainability* **2022**, *14*, 4156. https://doi.org/10.3390/su14074156 (Q2).
4. Savu, S.V.; **Tarnita, D**.; Benga, G.C.; Dumitru, I.; Stefan, I.; Craciunoiu, N.; Olei, A.B.; Savu, I.D. Microwave Technology Using Low Energy Concentrated Beam for Processing of Solid Waste Materials from *Rapana thomasiana* Seashells. **Energies 2021**, **14**, 6780. https://doi.org/10.3390/en14206780
5. Savu, I.D.; **Tarniță, D.**; Savu, S.V.; Benga, G.C.; Cursaru, L.-M.; Dragut, D.V.; Piticescu, R.M.; Tarniță, D.N. Composite Polymer for Hybrid Activity Protective Panel in Microwave Generation of Composite Polytetrafluoroethylene -Rapana Thomasiana. *Polymers* **2021**, *13*, 2432. https://doi.org/10.3390/polym13152432 (Q1).
6. **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.
7. 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 (Q1).
8. 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.
9. **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 (Q2).
10. **Tarnita, D.**, D-B Marghitu, **Nonlinear dynamics of normal and osteoarthritic human knee**, *Proceedings of the Romanian Academy*, pp. 353-360, 2017. (Q2).
11. Geonea, I**., Tarnita, D.**, **Design and evaluation of a new exoskeleton for gait rehabilitation**, *Mechanical Sciences*, 8(2), pp 307-322. 2017 (Q2).

12. **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 (IF=0,912)*
13. **Tarnita, Daniela,** Wearable sensors used for human gait analysis, *Rom J Morphol Embryol* 2016, 57(2), pp 373-382
14. **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
15. DN Tarniţă, **Daniela Tarniţă**, 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 **(IF=0.811).**
16. **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. (Q1).
17. **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.
18. **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.
19. **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,
20. **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.
21. **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.rev**materialeplastice**.ro**.**
22. **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.
23. **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.
24. **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.
25. **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./**.**
26. **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 (68 citations), http://www.rjme.ro/RJME/resources/files/500109015021.pdf.
27. **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.
28. 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.
29. **Tarniţă**, D., Popa, D., Tarniţă, 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.

30. Tarniţă, D.N., **Tarniţă, 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
31. 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.

7.1.2 Papers in ISI Journals, Proceedings ISI and Scopus

1. **DANIELA TARNITA**, DAN MARGHITU, DAN CALAFETEANU, ILIE DUMITRU, DANUT NICOLAE TARNITA, **FINITE ELEMENT ANALYSIS OF THE EFFECTS OF THE VARUS ANGLE AND ANTERO-POSTERIOR TIBIAL INCLINATION ON THE STRESSES OF THE PROSTHETIC HUMAN KNEE, ACTA TECHNICA NAPOCENSIS, APPLIED MATHEMATICS, MECHANICS AND ENGINEERING, VOL 64, NO 1-S2, PP 439-448, 2021**
2. Oncescu Teofil-Alin, Petcu Alin, **Tarnita Daniela**, EValuation of whole-body vibrations and comfort state of tractor driver for different types of terrain and speeds, ACTA TECHNICA NAPOCENSIS - Series: APPLIED MATHEMATICS, MECHANICS, and ENGINEERING, Vol 64, No 1 (2021)
3. Georgescu, M.**, Tarnita, D**., Dumitru, I., Petcu, A., Vaduva, R., Marghitu, D., **Analysis Of Human Hip Movement Using Nonlinear Timeseries Analysis Methods,** ACTA Technica Napocensis, Applied Mathematics, Mechanics and Engineering, Vol 64, No 1-S2 (2021) (https://atna-mam.utcluj.ro/index.php/Acta/article/view/1531)
4. **Petcu A., Tarnita D.,** Georgescu M**., Iliuta D., Petrovici I., Tarnita D.N.,** Modeling And Evaluation Of A New Exoskeleton Used For Rehabilitation Of Osteoarthritic Human Knee**, ACTA Technica Napocensis, Applied Mathematics, Mechanics and Engineering, Vol 64, No 1-S2 (2021) (https://atna-mam.utcluj.ro/index.php/Acta/article/view/1538/1260**
5. **Tarnita, D.**, Boborelu C., Popa D., Malciu R., Tarnita DN. (2020) **Virtual Modeling and Numerical Simulations of the Latitude Prosthesis - Human Elbow Assembly**. In: Dumitru I., Covaciu D., Racila L., Rosca A. (eds) The 30th SIAR International Congress of Automotive and Transport Engineering. Pp. 706-712, SMAT 2019. Springer, Cham
6. **Tarnita D.,** Oncescu A.T. (2020) **Sensors Used for Human Gait Monitoring.** In: Dumitru I., Covaciu D., Racila L., Rosca A. (eds) The 30th SIAR International Congress of Automotive and Transport Engineering. Pp 518-524**,** SMAT 2019. Springer, Cham
7. **Tarnita D.**, Georgescu M., Geonea I., Petcu A., Tarnita DN. (2019) **Nonlinear Analysis of Human Ankle Dynamics**. In: Carbone G., Ceccarelli M., Pisla D. (eds) New Trends in Medical and Service Robotics. Mechanisms and Machine Science, vol 65. Springer, Cham, pp 235-243, https://link.springer.com/chapter/10.1007/978-3-030-00329-6_27
8. Geonea I., **Tarnita D.,** Carbone G., Ceccarelli M. (2019) **Design and Simulation of a Leg Exoskeleton Linkage for Human Motion Assistance.** In: Carbone G., Ceccarelli M., Pisla D. (eds) New Trends in Medical and Service Robotics. Mechanisms and Machine Science, vol 65. Springer, Cham, pp 93-100, https://link.springer.com/chapter/10.1007/978-3-030-00329-6_11
9. **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.**
10. **Tarniţă, 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.
11. **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.
12. **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
13. **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).

14. 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.
15. **Daniela Tarnita,** Marius Catana, Dan Tarnita**, Contributions on the modeling and simulation of the human knee joint with applications to the robotic structures, I**n **"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
16. **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
17. **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.
18. **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.
19. **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.
20. 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.
21. Bîzdoacă, N., Tarniţă, D.N., **Tarniţă**, **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**.**
22. **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.
23. 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
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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 TARNIŢĂ** - 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,*** Didactic and Pedagogic **Publishing House,** 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 TARNIŢĂ-*Statistics. Theory and applications,*** Universitaria **Publishing House**, Craiova, 2004.
7. DUMITRU BOLCU**, DANIELA TARNIŢĂ-** ***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 (president- branch Craiova); Romanian Society of Biomaterials; Romanian Society of Theoretic and Applied Mechanics; Romanian Society of Robotics; Romanian Inventors Forum;

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** for **Actuators Journal**

Member of Editorial Board of Bulletin of The "Transilvania" University of Brasov, Series I Engineering Sciences.

- President of First International conference on advanced Research in Engineering, CARE 2020
- President of First International conference on advanced Research in Engineering, CARE 2020
- President of the National Olympiad in Mechanics, Craiova 2018
- President of International Conference of Mechanical engineering, 2015, Craiova;
- President of International Workshop "From Biological Systems to Robotic Structures" 2012

9. **Reviewer** for:

Annals of Biomedical engineering, Australasian Physical & Engineering Sciences in Medicine Journal, Central European Journal of Engineering, Robotics and Computer-Integrated Manufacturing, Transactions on Mechatronics- IEEE, Romanian Journal of Technical Science, Springer Publishing House, Industrial Robot Journal, Journal of Mechanisms and Robotics, Key Engineering Materials, Applied Mechanics and Materials, Mechanical Science, Journal of Bionic Engineering, Sensors, Life, Applied Sciences,

10. Experience in national or international projects:

Program / Project	Function	Period
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, **Partener P1 -Universitatea din Craiova; P2 - UMF** Iuliu Hateganu, Cluj Napoca	Director P1-UCv	2020-2022
Produs nou fabricat prin imprimare 3D pe bază de extrudare din biodeseuri 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; (valoare 200 000 lei–UCv)	Director P1-UCv	2020-2022
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
Partner-ship Ford Romania–Univ. of Craiova for transfer and implementation of Ford Eco-Technologies to realise EcoSport model in Craiova- PN III Bridge Grant_ BG92	Member	2016-2018
International Workshop: From Biological Structures Inspiration to Robotic Structures	Director	July 2012
Modular adaptive orthopaedic implants based on smart materials –PNCDI Idei_92	Director	2007-2010
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
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
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
Reverse Engineering in Cognitive Recognition And Control Of Biomimetics Structures, International Bilateral Project with Seoul National University	member	2010-2011
The control and technological integration of the intelligent materials and structures CEEX –259–CITMSI, 2007, signed by CCMR- UCv	Responsible in field	2006-2008
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
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

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	2010-2015