Prof. dr. eng. DANIELA TARNITA Curriculum vitae

Professor of Mechanisms Theory; Biomechanics; Strength of Materials;

Head of "Acad. Radu Voinea" Doctoral School, University of Craiova;

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

Head of the 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

In the AD Scientific Index ranking, published in 2023, 2024, 2025, I am among the "Top 5 Scientists in University of Craiova" in the H index category.

Top 2% best researchers for 2021 - ranking compiled by SCOPUS and Edit Elsevier.

$H_{WoS} = 20$, $H_{SCOPUS} = 20$, Hgoog.sch = 30, $I_{10} = 64$

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.PROINVENT 2023, PROINVENT 2025.

2.EUROPEAN EXHIBITION OF CREATIVITY AND INNOVATION, IASI: EUROINVENT 2017, EUROINVENT 2018, EUROINVENT 2019, EUROINVENT 2021, EUROINVENT 2022, EUROINVENT 2023, EUROINVENT 2024, EUROINVENT 2025.

3. EURO-POLITECHNICUS, Bucuresti, 2024 si 2025.

4. INVENTCOR, Deva, 2023, 2024 si 2025.

4. Member of the Scientific Commitees:

- International Symposium SYROM 2017, Brasov, 2025 Brasov,
- International Conference of Mechanical engineering, Craiova: ICOME 2024, ICOME 2021, ICOME 2016, ICOME 2013, ICOME 2010
- International Conference on Advanced Research in Engineering, Craiova, CARE 2020, CARE 2022, CARE 2024.
- Advanced Concepts on Mechanical Engineering, Iasi - ACME 2010, - ACME 2012, ACME 2014, ACME 2016, ACME 2018, ACME 2020, ACME 2022, ACME 2024.
- PRASIC 2016, Brasov, - PRASIC 2018, Brasov
- International Conference on Advancements of Medicine and Health Care through Technology, 2011, Cluj-Napoca
- The Joint International Conference of the 13th IFToMM International Symposium on Science of Mechanisms and Machines (SYROM 2022) and the XXV International Conference on Robotics (ROBOTICS2022)
- The Joint International Conference of the XIV International Conference on Mechanisms and Mechanical Transmissions (MTM) and the XXVI International Conference on Robotics (ROBOTICS) Iasi, Romania, November 14 – 16, 2024
- MESROB -Medical and Service Robotics International Workshop–Lausanne 2014, Nantes 2015, Graz 2016, Cassino, 2018, Basel 2020, Basel 2021, Craiova2023, Poitiers 2025,
- -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: RO129147-2018
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. MODULAR-ADAPTIV STEM FOR TOTAL HIP PROSTHESIS, BASED ON INTELLIGENT MATERIALS,
Inventors: Tarnita Danut Nicolae, **Daniela Tarnita, Brevet 132638** din 30.01.2025

8 Process for obtaining 3D structures based on calcium phosphate; Inventors: Cursaru Laura Madalina, Chiriac Stefania, Piticescu Roxana-Mioara, Stanciu Paul, Dumitrescu Victoria-Gabriela, Tarnita Daniela, OSIM Patent, No. 137275 of 30.05.2015

9 **Modular exoskeleton for applications in recovery of human lower limb, Inventors:** Geonea Ionut**, Daniela Tarnita,** Patent No. 132701/20/10/2024

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

6. Awards for patents:

1. **65 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. **Springer Best Student Paper on Mechanisms and Machines Science** pentru articolul**: Tarnita, D.,** Oncescu, T.A., Dumitru, I., Bostina, S., Geonea, I., Vladut, N.V. and Tarnita, D.N., 2025, Evaluations of Vibration and Comfort of an Electric Tractor Driver by Modal and Experimental Analysis. In: Carbone, G., Quaglia, G. (eds) Proceedings of I4SDG Workshop 2025 - IFToMM for Sustainable Development Goals. I4SDG 2025. Mechanisms and Machine Science, vol 180. Springer, Cham. https://doi.org/10.1007/978-3-031-91179-8_48, awarded by ***International Federation for the Promotion Mechanism and Machine Science & Springer Publishing House***
2. **The Gold Application Paper Award pentru lucrarea Tarnita, D**., Geonea, I., Dumitru, I., Petcu, A. and Tarnita, D.N., 2024, April. Experimental Evaluation and Numerical Simulation in a Lower Limb Exoskeleton. In *IFToMM International Symposium on Robotics and Mechatronics* (pp. 151-161). Cham: Springer Nature

Switzerland, awarded by ***International Federation for the Promotion Mechanism and Machine Science & International Committee Award for ISRM 2024.***

3. **The Gold Application Paper Award pentru lucrarea** Geonea, I., Racila, L., Dumitru, I., Grigorie, L., Romanescu, A., Rosca, S. and Tarnita, D., 2024, April. Kinematic and Dynamic Analysis of a New Prototype Exoskeleton for Human Lower Limb Rehabilitation. In *IFToMM International Symposium on Robotics and Mechatronics* (pp. 197-205). Cham: Springer Nature Switzerland, awarded by ***International Federation for the Promotion Mechanism and Machine Science & International Committee Award for ISRM 2024.***

4. **The Best Application Paper Silver Award** pentru lucrarea: **Daniela Tarnita,** Ionut Geonea, Marius Georgescu, Dan Marghitu, Gabriela Marinache, Danut-Nicolae Tarnita**, Nonlinear dynamics used to study the influence of treadmill speed and incline on the human hip stability,** awarded by ***International Federation for the Promotion Mechanism and Machine Science & International Committee Award for MESROB 2023,***

5. **The Best Application Paper Bronze Award** pentru lucrarea: *Ionut Geonea, Cristian Copilusi, Alexandru Margine, Sorin Dumitru, Adrian Sorin Rosca,* ***Daniela Tarnita,*** **Dynamic analysis and structural optimization of a new exoskeleton prototype for lower limb rehabilitation,** awarded by ***IFToMM & International Committee Award for MESROB 2023, Craiova.***

6. 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*

7. 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**

8. 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 im- plants,** Advances in Mobile Robotics, ISBN-10 981-283-576-8 **World Scientific Publishing Co.Pte.Ltd,** 190-198**.**

9.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.

10. 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,

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

Editor of the volume Proceedings of The 8th International workshop "New Trends in Medical and Service Robots", Springer, June, 2023 (42 articles, 370 pages).

Editor of the book: Proceedings of First International Conference on Advanced Research in Engineering, CARE 2020, Editura Universitaria, Craiova, 2021.

N. Dumitru, I. Dumitru, S. Crețu & Daniela Tarniță - Coordinators of the book "In Memoriam Prof. univ. Emerit Dr. Eng. Iulian Popescu, Full Member of the Romanian Academy of Technical Sciences", Editura Universitaria, Craiova, ISBN- 978-606-14-2139-8 (147 pages)

Tarnita, D., Dumitru, N., Pisla, D., Paraschiv, G., Special Issue, Vol.64, No.1- S2, 2021, ACTA Technica Napocensis, Applied Mathematics, Mechanics and Engineering

Tarnita, D., Dumitru, N., Pisla, D., Paraschiv, G., Special Issue, Vol.65, No.2, S2, 2022, ACTA Technica Napocensis, Applied Mathematics, Mechanics and Engineering

Tarnita, D., Vol. 64, No.3, 2022, The Romanian Journal of Technical Sciences. Applied Mechanics, publicat sub egida Academiei Romane.

Tarnita, D., Pisla, D., Dumitru, N., Carbone, G., Geonea, I., Special Issue, New Trends in Medical and Service Robots, jurnalul Machines (Q2), oct 2023.

Sorin V. Savu & **Daniela Tarniță** - Guest Editors Special Issue, Advanced Microwave Technology for Processing, *jurnalul Applied Sciences (Q2),* 2025

7.1.1.Papers in ISI journals

1. Savu, Sorin Vasile; **Tarniță, Daniela**; Stefan, Iulian; Benga, Gabriel Constantin; Savu, Ionel Danut; Sîrbu, Nicușor-Alin; Dumitru, Ilie; Ciungu, Marin Andretti; Ursu, Mihai; Cosma, Cristian, **Research on the Influence of the Defects of Materials on Thermal Runaway in Microwave Hybrid Heating for Sintering Processes**, Applied Sciences, 2025, 15(8), 4115 Q2
2. Oncescu, T.A., Persu, I.C., Bostina, S., Biris, S.S., Vilceleanu, M.V., Nenciu, F., Matache, M.G. and **Tarnita, D.,** 2025. **Comparative Analysis of Vibration Impact on Operator Safety for Diesel and Electric Agricultural Tractor**s. *AgriEngineering*, *7*(2), p.40. Q2
3. Geonea, I.; Copilusi, C.; Dumitru, S.; Margine, A.; Rosca, A.; **Tarnita, D***. A New Exoskeleton Prototype for Lower Limb Rehabilitation. *Machines* **2023**, *11*, 1000. **(Q2)**
4. Akhan, A.F., Zhao, J., **Tarnita, D.** and Marghitu, D.B., 2023. **Repeated Collision of a Planar Robotic Arm with a Surface Using Generalized Active Forces.** *Machines*, *11*(8), p.773. **(Q2**)
5. Savu, S.V., Ghelsingher, C.D., Stefan, I., Sîrbu, N.A., **Tarniță, D.**, Simion, D., Savu, I.D., Bucșe, I.G. and Țunescu, T., 2023. **Microwave Soldering of Low-Resistance Conductive Joints—Technical and Economic Aspects.** *Materials*, *16*(9), p.3311. **Q1**
6. Tohanean, N.; Tucan, P.; Vanta, O.-M.; Abrudan, C.; Pintea, S.; Gherman, B.; Burz, A.; Banica, A.; Vaida, C.; Neguran, D.A.; Ordog, A.; **Tarnita, D.**; Pisla, D. **The Efficacity of the NeuroAssist Robotic System for Motor Rehabilitation of the Upper Limb—Promising Results from a Pilot Study.** *J. Clin. Med.* **2023**, *12*, 425. https://doi.org/10.3390/jcm12020425 **Q1**
7. **Tarnita, D.**, Geonea, I.D., Pisla, D., Carbone, G., Gherman, B., Tohanean, N., Tucan, P., Abrudan, C. and Tarnita, D.N., **Analysis of Dynamic Behavior of ParReEx Robot Used in Upper Limb Rehabilitation**. *Appl. Sci*. **2022**, **12**(15), 7907; https://doi.org/10.3390/app12157907 , **Q2**
8. Cursaru, L.M.; Iota, M.; Piticescu, R.M.; Tarnita, D.; Savu, S.V.; Savu, I.D.; Dumitrescu, G.; Popescu, D.; Hertzog, R.-G.; Calin, M. **Hydroxyapatite from Natural Sources for Medical Applications.** *Materials* **2022**, *15*, 5091. https://doi.org/10.3390/ma15155091, **Q1,**
9. **TARNITA, D**. and CHIHAIA, C.E., 2025. **Study of stresses and vibrations of a virtual elbow orthosis model based on finite element analysis.** *ACTA TECHNICA NAPOCENSIS-Series: APPLIED MATHEMATICS, MECHANICS, and ENGINEERING*, *68*(1 & 2), 373-380.
10. BERCEANU, C., CHIHAIA, C., MARGHITU, D.B. and **TARNITA, D**., 2025. **Human and robot finger kinematic analysis using wavelet theory.** *ACTA TECHNICA NAPOCENSIS-Series: APPLIED MATHEMATICS, MECHANICS, and ENGINEERING*, *68*(1 & 2), 119-124.
11. Iliuta, D., **Tarnita, D**., Mesina, M., Capitanescu, B., Zlatian, O. and Tarniță, D.N., 2025. **Research regarding the subjective improvement of knee joint function after treatment with hydrolysed collagen formulation**. **Balneo & PRM Research Journal**, *16*(2):818, Q3.
12. Daniel I., **Tarnita D.*,** Zlatian O., Rogoveanu O., Petcu A., Tarniță D.N. - **Influence of treatment with a hydrolyzed collagen formulation on the movements of the human knee with early-stage gonarthrosis** Balneo and PRM Research Journal 2025, 16(2): 527, Q3.
13. **Tarniță, D.**, Marghitu, D., Petcu A.,* Oncescu, AT.,* Prunoiu, D.,* Tarniță, D.N., Tenovici, M. and Iliuta, D., **Experimental kinematics of human and artificial finger**, Acta technica napocensis-series: applied mathematics, mechanics, and engineering, 65(2S), 471-478, 2022.
14. ȘTEFAN, I., **TARNIȚĂ, D.,** BUCȘE, I.G., SAVU, I.D., SAVU, S.V., CURSARU, L.M. and PITICESCU, R.M., 2022. **Specific aspects in using seashell powder (rapana thomasiana) in elaboration of composites for medical purposes**. Acta technica napocensis-series: applied mathematics, mechanics, and engineering, 65(2S).
15. 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 Rehabilita- tion. *Appl. Sci.* **2021**, *11*, 11849. https://doi.org/10.3390/app112411849 (Q2).
16. 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 Reha- bilitation Tasks. *Appl. Sci.* **2021**, *11*, 9932. https://doi.org/10.3390/app11219932 (Q2).
17. 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 Sustain- able Transport in the Inland Waterway Sector. *Sustainability* **2022**, *14*, 4156. https://doi.org/10.3390/su14074156 (Q2).

18. 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 Ma- terials from *Rapana thomasiana* Seashells. **Energies 2021**, **14**, 6780.
19. 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. (Q1).
20. **D Tarniță**, A Petcu, N Dumitru, Influences of treadmill speed and incline angle on the kine- matics of the normal, osteoarthritic and prosthetic human knee, *Rom J Morphol Embryol* 2020, 61(1):199–208, doi: 10.47162/RJME.61.1.22.
21. 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).
22. 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.
23. **Tarnita, D**., Pisla, D., Geonea, I., Vaida, C., I. et al. **Static and Dynamic Analysis of Osteoar- thritic and Orthotic Human Knee**, J Bionic Eng (2019) 16:514-525. (Q2).
24. **Tarnita, D.**, D-B Marghitu, **Nonlinear dynamics of normal and osteoarthritic human knee**,*Proceedings of the Romanian Academy*, pp. 353-360, 2017. (Q2).
25. Geonea, I**., Tarnita, D.**, **Design and evaluation of a new exoskeleton for gait rehabilitation**,*Mechanical Sciences*, 8(2), pp 307-322. 2017 (Q2).
26. **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 Mor- phol Embryol, 2017, 58(3), pp.831-836 (IF=0,912)*
27. **Tarnita, Daniela,** Wearable sensors used for human gait analysis, *Rom J Morphol Embryol* 2016, 57(2), pp 373-382
28. **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
29. **Tarnita, Daniela,** Marghitu, D., **Analysis of a hand arm system**, Robotics and Computer- Integrated Manufacturing, Vol. 29, Issue 6, Pages 493–501, 2013. (Q1).
30. **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.
31. **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.
32. **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,
33. **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.
34. **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**.**
35. **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 Mor- phology and embryology, Vol 51, No.1, pp 145-150, 2010,
36. **Tarnita, D**., Tarnita, D.N., Hacman, L., Copilusi, C., Berceanu, C., Cismaru, F., **In vitro experi- ment of the modular orthopedic plate based on Nitinol, used for human radius bone frac- tures,** Romanian Journal of Morphology and embryology, Vol 51, No2, pp. 315-320**, 2010,** .
37. **Tarnita D.,** Boborelu, C., et al., **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,
38. **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, Materi- als 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./.

39. **Tarnita, D**., Tarnita, D. N., et al., **Properties and Medical Applications of Shape memory Al- loys;** Romanian Journal of Morphology and embryology, Vol. 50. No.1, pp.15-22, 2009
40. **Tarnita, D.,** Tarnita, D.N., Bizdoaca, N.,et al, **Modular adaptive bone plate for humerus bone osteosynthesis**, *Rom J Morphol Embryol*, Vol. 50(3)**,** pp. 447-452 2009,
41. Tarniţă, D.N., **Tarniţă, D.,** Popa, D., **Analysis of stress and displacements of phalanx bone with the finite element method,** in *Rom J Morphol Embryol,* vol. 46 no. 3, pp 189-192, 2005,

7.2. Books in National Publishing Houses

1. **DANIELA TARNITA,** DUMITRU BOLCU**,** ***Elements of mechanics and strength of materials,***
2. Universitaria **Publishing House**, Craiova, 2012.
3. **DANIELA TARNITA, Elements** ***of mechanical engineering and strength of materials,*** Univer- sitaria **Publishing House**, Craiova, 2012.
4. **DANIELA TARNIŢĂ** - Mechanisms ***actuated by springs. Methods for dynamic analysis and synthesis,*** Universitaria **Publishing House**, Craiova, 1998.
5. DUMITRU BOLCU, **DANIELA TARNITA,** ***Methods for kinetostatics analysis of plane mecha- nisms,*** Didactic and Pedagogic **Publishing House,** Bucharest, 2009.
6. **DANIELA TARNITA,** DUMITRU BOLCU**,** ***Methods for kinematical analysis of planar mech- anisms,*** Didactic and Pedagogic **Publishing House**, Bucharest, 2005 ISBN 973-30-1485-0.
7. **DANIELA TARNIŢĂ-*Statistics. Theory and applications,*** Universitaria **Publish House**, Craiova, 2004.
8. 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 So- ciety 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**

- President of International conference on advanced Research in Engineering, CARE 2020, CARE 2022, CARE 2024
- President of the National Olympiad in Mechanics, Craiova 2018
- President of International Conference of Mechanical engineering, ICOME 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 DOMENIU 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