

Author:

Assoc.prof.dr.eng. Daniela Mariana BARBU

Habilitation thesis title:

Applied research in analyzing and modeling of the human biosystems to improve quality of life

Fundamental domain: **Engineering Sciences**

Specialised commission: **Mechanical engineering, mechatronics and robotics**

PUBLICATIONS LIST

RELEVANT PAPERS

LR-1. **Barbu, D.M.**; Bulmagă, M.G. *Simulation Method for Color Vision on Drivers by Inducing Visual Stress*, Acta Technica Corviniensis - Bulletin of Engineering Hunedoara, 9.3 (Jul-Sep 2016); pp. 97-102.

<http://search.proquest.com/docview/1806387508?pq-origsite=gscholar>

LR-2. **Barbu, D.M.** *Visual Field Evaluation Method of the Automobile Drivers in Traffic*, Annals of the Faculty of Engineering Hunedoara - International Journal of Engineering, Aug. 2016, Vol. 14 Issue 3, pp. 163-168.

<http://eds.a.ebscohost.com/abstract?site=eds&scope=site&jrnl=15842665&AN=118091905&h=y17w4CngqApf7xCDIHlOrGqrOL5MOUg5ZIOpcwVDhrMTcZBBVSQ5dEOMv54WEepIqAJ0I0RqQ3AnkJi0QMNzrQ%3d%3d&cr=c&resultLocal=ErrCrInoResults&resultNs=Ehost&crIhashurl=login.aspx%3fdirect%3dtrue%26profile%3dehost%26scope%3dsite%26authtype%3dcrawler%26jrnl%3d15842665%26AN%3d118091905>

LR-3. **Barbu D.M.**; Plesa I.M. *Techniques and Optometric Tools for Visual Training in Strabismus for Preschool Children*, The 5th IEEE International Conference on E-Health and Bioengineering (EHB 2015), Iași, Romania, November 19-21, 2015; paper 293.

http://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=1&SID=V10T6kx6YnoD8raVhxV&page=1&doc=5&cacheurlFromRightClick=no

LR-4. **Barbu D.M.**; Vitelariu A.L. *Optometric Testing for Binocular Vision in Preschool Children*, The 5th IEEE International Conference on E-Health and Bioengineering - EHB 2015, Iași, Romania, November 19-21, 2015; paper 294.

http://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=1&SID=V10T6kx6YnoD8raVhxV&page=1&doc=4

LR-5. **Barbu, D.M.** *Some Aspects Concerning Modeling the Eye Plant without Ocular Deviations*, Applied Mechanics and Materials, (Volume 658), Advanced Concepts in Mechanical Engineering I, 2014; ISBN 978-303835271-6, ISSN 16609336; DOI 10.4028/ www.scientific.net/AMM.658.395; pp. 395-400.

<http://www.scopus.com/record/display.uri?eid=2-s2.0-84920639691&origin=resultslist&sort=plf-f&src=s&st1=barbu+d&st2=&sid=COA6F12FD7344EE24524CCDB58829E1.N5T5nM1aaTEF8rE6yKCR3A%3a10&sot=b&sdt=b&sl=20&s=AUTHOR-NAME%28barbu+d%29&relpos=5&citeCnt=0&searchTerm=AUTHOR-NAME%28barbu+d%29>

LR-6. **Barbu, D.M.**; Lache, S.; Barbu, I. *Considerations about Human Behavior in a Vibrational Medium*, Topics in Advanced Theoretical and Applied Mechanics, 2007, ISBN 978-960-6766-19-0, ISSN 1790-2769, pp. 100-105;

https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=15&SID=P2QXUvgKvYiU8MiSt17&page=1&doc=2

LR-7. **Barbu, D.M.**; Barbu, I. *Human Behaviour in a Vibrational Medium. Experimental Considerations*, Journal of Environmental Protection and Ecology (J.E.P.E.), vol. 9, no. 3, 2008; ISSN 1311-5065; pp. 574-582.

http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=1&SID=N119m5gyFUi1Or2LnNg&page=1&doc=39&cacheurlFromRightClick=no

LR-8. **Barbu, D.M.** *Modeling of the Seated Human Body in a Vibrational Medium*, Applied Mechanics and Materials, (Volume 658), Advanced Concepts in Mechanical Engineering I, 2014; ISBN 978-303835271-6, ISSN 16609336; DOI 10.4028/www.scientific.net/AMM.658.395; pp. 401-406.

<http://www.scopus.com/record/display.uri?eid=2-s2.0-84920684055&origin=resultslist&sort=plf-f&src=s&st1=barbu+d&st2=&sid=COA6F12FD7344EE24524CCDB58829E1.N5T5nM1aaTEF8rE6yKCR3A%3a10&sot=b&sdt=b&sl=20&s=AUTHOR>

[-NAME%28barbu+d%29&relpos=6&citeCnt=0&searchTerm=AUTHOR-NAME%28barbu+d%29](#)

LR-9. **Barbu, D.M.**; Dumitriu, A.; Lache, S.; Barbu, I., Druga, C. *A Proposed Orthotic Model for Locomotor Rehabilitation*, Annals of DAAAM for 2009 & Proceedings of DAAAM International Symposium, "Intelligent Manufacturing & Automation: Theory, Practice & Education", 25-28 November 2009, Vienna, Austria; vol. 20; ISBN 978-3-901509-70-4; pp. 1197-1198.

http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=1&SID=N119m5gyFUi1Or2LnNg&page=1&doc=31&cacheurlFromRightClick=no

LR-10. **Barbu, D.M.**; Barbu, I. *Dynamical Model for an Original Mechatronic Rehabilitation System*, The 8th WSEAS International Conference on System Science and Simulation in Engineering, Genova, Italy, October 17-19, 2009 – paper 626-273; Publ. In Proceedings of The 14th WSEAS International Conference On Applied Mathematics (MATH '09); ISBN 978-960-474-138-0; pp. 23-27.

https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=18&SID=P2QXUvgKvYiU8MiSt17&page=1&doc=42

PHD THESIS

Thesis title: *Analysis and modeling of visual function*

Scientific coordinator: *Prof.dr.eng. Sergiu T. Chiriacescu*

Research area: *Mechanical Engineering*

Presenting date: 22.01.2003

Doctoral Degree based on the Ministry of Education and Research Order no. 3896 of 24.04.2003, Magna Cum Laude distinction

Diploma **C Series, no. 0004727**

PATENTS

Mechatronic system for locomotor recovery of the leg, patent number: RO127002-A0, Derwent Primary Accession Number: 2012-D25564 [32], Inventors: **Barbu, D.M.**; Lache, S.; Luculescu, M.C.; Barbu, I.

http://apps.webofknowledge.com/full_record.do?colName=DIIDW&recordID=2012D25564&page=1&qid=1&log_event=yes&viewType=fullRecord&SID=N1zcZru5ssgrRBgxxVa&product=UA&doc=1&search_mode=GeneralSearch

<http://pub.osim.ro/publication-server/pdf-document?PN=RO127002%20RO%20127002&iDocId=2029&iepatch=.pdf>

https://worldwide.espacenet.com/publicationDetails/biblio?II=7&ND=3&adjacent=true&locale=en_EP&FT=D&date=20120130&CC=RO&NR=127002A0&KC=A0

BOOKS / BOOK CHAPTERS

C-I. Specialized monographs and chapters in international specialty monographs

C-I.1. Baritz, M., Cotoros, D., **Barbu, D.**, *Sustainable Energy in the Built Environment - Steps Towards nZEB - Use of Thermo-Vision for Early Detection of Heat Losses, Inside and Outside Buildings with Mixed Heating*, Editura Springer, 2014, ISBN 978-3-319-09706-0, 978-3-319-09707-7.

C-I.2. Baritz, M., Cotoros, D., **Barbu, D.**, *Sustainable Energy in the Built Environment - Steps Towards nZEB - Criteria Analysis for Optimal Choice of Efficient Energy Use in Residential Buildings*, Editura Springer, 2014, ISBN 978-3-319-09706-0, 978-3-319-09707-7.

C-II. Specialized monographs and chapters in national specialty monographs

C-II.1. Lache, S.; **Barbu, D.M.**; Luculescu, M.C.; Barbu, I. *Modele și sisteme avansate pentru protecția organismului uman la vibrații și prevenirea bolilor profesionale / Models and systems for advanced human body vibration protection and prevention of occupational diseases*, Transilvania University Press, Brasov, 2009, ISBN 978-973-598-379-6, 153 pages.

C-II.2. Lache, S.; **Barbu, D.M.**; Luculescu, M.C.; Popovici, B.; Necula, R.; Secară, E. *Boli profesionale datorate influenței vibrațiilor asupra organismului uman / Occupational diseases due to the influence of vibration on the human body*, Transilvania University Press, Brasov, 2008, ISBN 978-973-598-205-8, 140

pages.

C-II.3. Olariu, V.; Roșca, I.; Radu, Gh.; Baritz, M.; **Barbu, D.** *Biomecanica. Bazele biomecanicii / Biomechanics. Basics of biomechanics*, Macarie Press, „Universitaria” Collection, Târgoviște, 1998, ISBN 973-9372-01-5; 209 pages.

C-II.4. Olariu, V.; Talpoși, A.; Macovei, M.; Cîrîc, D. (**Barbu, D.**) *Mecanica – Dinamica / Mechanics – Dynamics*, Bravox Press, Brasov, 1995; ISBN 973-95054-1-5; 412 pages.

C-II.5. Olariu, V.; Talpoși, A.; Macovei, M.; Cîrîc, D. (**Barbu, D.**) *Mecanica – Cinematica / Mechanics - Cinematics*, Bravox Press, Brasov, 1994; ISBN 973-95054-9-0; 267 pages.

C-II.6. Olariu, V.; Talpoși, A.; Macovei, M.; Cîrîc, D. (**Barbu, D.**) *Mecanica – Statica / Mechanics - Statics*, Tipocart Brasovia Press, Brasov, 1994; ISBN 973-96352-5-3; 295 pages.

C-III. Textbooks, course support, hard copy or electronic format

C-III.1. **Barbu, D.M.** *Metode numerice în inginerie: baze teoretice / Numerical Methods in Engineering: theoretical bases*, Transilvania University Tipography, 2003; 108 pages.

C-III.2. **Barbu, D.M.** *Tehnologii de montaj și adaptare ochelari / Mounting and adaptation technologies for eyeglasses*, „Transilvania” University Press from Brasov, 2003; ISBN 973-635-131-9; 150 pagini.

C-III.3. **Barbu, D.M.** *Analiza și modelarea funcției vizuale / Analysis and modeling of visual function*, „Transilvania” University Press from Brasov, 2003; ISBN 973-635-130-0; 218 pagini.

C-III.4. **Barbu, D.M.** *Numerical Methods. MathCAD Applications*, Gr.T. Popa Pres UMF Iași, ISBN 973-606-544-438-6, electronic edition, Iași, 2017.

JOURNAL ARTICLES

R-I. Articles published in ISI indexed journals

R-I.1. **Barbu, D.M.**; Barbu, I. *Dynamical Model for an Original Mechatronical Rehabilitation System*, Recent Advances in Applied Mathematics, 2009, ISBN 978-960-474-138-0; pp. 23-26.

R-I.2. **Barbu, D.M.**; Barbu, I. *Considerations Concerning Mechatronical Systems for Medical Rehabilitation*, Recent Advances in Applied and Theoretical Mechanics, 2008, ISBN 978-960-474-046-8; ISSN 1790-2769, pp. 112-117;

R-I.3. **Barbu, D.M.**; Barbu, I. *Human Behaviour in a Vibrational Medium. Experimental Considerations*, Journal of Environmental Protection and Ecology (J.E.P.E.), vol. 9, no. 3, 2008; ISSN 1311-5065; pp. 574-582.

R-I.4. **Barbu, D.M.**; Lache, S.; Barbu, I. *The Numerical Analyze of the Human Behavior in a Vibrational Medium*, WSEAS TRANSACTIONS on SYSTEMS, Issue 4, Volume 7, April 2008, ISSN 1109-2777, pp. 404-414;

R-I.5. **Barbu, D.M.**; Lache, S.; Barbu, I. *Considerations about Human Behavior in a Vibrational Medium*, Topics in Advanced Theoretical and Applied Mechanics, 2007, ISBN 978-960-6766-19-0, ISSN 1790-2769, pp. 100-105;

R-II. Articles published in BDI indexed journals

R-II.1. **Barbu, D.M.**; Bulmagă, M.G. *Simulation Method for Color Vision on Drivers by Inducing Visual Stress*, Acta Technica Corviniensis - Bulletin of Engineering Hunedoara, 9.3 (Jul-Sep. 2016); pp. 97-102.

R-II.2. **Barbu, D.M.** *Visual Field Evaluation Method of the Automobile Drivers in Traffic*, Annals of the Faculty of Engineering Hunedoara - International Journal of Engineering, Aug. 2016, Vol. 14 Issue 3, pp. 163-168.

R-II.3. **Barbu, D.M.**; Balcu, I. *Physical Characteristics Necessary to Analyze the Dynamic Behavior of the Human Body*, Synthesis on Theoretical and Applied Mechanics, Volumul 7 (2016), Nr. 3, pp. 193-200.

- R-II.4. **Barbu, D.M.** *Sensors Used for Biomechanical Rehabilitation of the Paraplegic Leg*, Annals of the Oradea University, Fascicle of Management and Technological Engineering, Volume XIV(XXIV), Issue 1, may 2015; ISSN 1583-0691; pp. 37-40.
- R-II.5. **Barbu, D.M.** *The Effects of Radiation on the Eye in Industrial Environments*, Annals of the Oradea University, Fascicle of Management and Technological Engineering, Volume XIV(XXIV), Issue 2, august 2015; ISSN 1583-0691; pp. 7-12.
- R-II.6. **Barbu, D.M.**; Baritz, M.I. *Evaluation of the Human Body Equilibrium in a Vibration Environment*, Applied Mechanics and Materials (Volume 801), Issue Acoustics & Vibration of Mechanical Structures II, 2015; DOI 10.4028/www.scientific.net/AMM.801.295; pp. 295-299.
- R-II.7. **Barbu, D.M.**; Cotoros, D.L. *Assessment of the Occupational Effects of Vibrations on the Human Body*, Applied Mechanics and Materials (Volume 801), Issue Acoustics & Vibration of Mechanical Structures II, 2015; DOI 10.4028/www.scientific.net/AMM.801.295; pp. 290-294.
- R-II.8. **Barbu, D.M.** *Some Aspects Concerning Modeling the Eye Plant without Ocular Deviations*, Applied Mechanics and Materials, Volume 658, 2014; ISBN 978-303835271-6, ISSN 16609336; pp. 395-400.
- R-II.9. **Barbu, D.M.** *Modeling of the Seated Human Body in a Vibrational Medium*, Applied Mechanics and Materials, Volume 658, 2014; ISBN 978-303835271-6, ISSN 16609336; pp. 401-406.
- R-II.10. Baritz, M.; Cotoros, D.; **Barbu, D.M.** *Analysis and simulation of gait types with blocked joints*, Applied Mechanics and Materials, Volume 658, 2014; ISBN 978-303835271-6, ISSN 16609336; pp. 407-412.
- R-II.11. Pascu, A.; Radoi M.; Bisoc, A.; **Barbu, D.**; Barbu, I.; Ciurea, C.; Totoianu, G.; Stanciu, M. *N-terminal pro-brain natriuretic peptide (NT-proBNP) in patients with non-ST-elevation myocardial infarction (NSTEMI) compared to patients with unstable angina (UA) in a lot of patients admitted for non-ST-elevation acute coronary syndrome (NSTE-ACS)*, BioScientifica, Endocrine Abstracts, vol. 29, 2012, pp. 327.
- R-II.12. **Barbu, D.M.**, Barbu, I. *General Considerations about an Active Knee Rehabilitation Orthotic Device*, Annals of Oradea University, Fascicle Management and Technological Engineering, vol. VIII (XVIII), 2009; ISSN 1583-0691; pp. 542-545.
- R-II.13. Barbu, I., **Barbu, D.M.** *Design a Prototype for Rehabilitation Orthotic Device*, Annals of Oradea University, Fascicle Management and Technological Engineering, vol. VIII (XVIII), 2009; ISSN 1583-0691; pp. 546-552.
- R-II.14. **Barbu, D.M.**; Barbu, I.; Luculescu, M.C. *Considerations on a new generation of medical robots*, Bulletin of Polytechnic Institute Iasi, Tomul LIV(LVIII), Fasc. 4, Machine manufacturing Section, 2008; ISSN 1011-2855; pp. 411-416.
- R-II.15. **Barbu, D.M.**; Barbu, I. *Considerations on the human locomotor orthoses*, Bulletin of Polytechnic Institute Iasi, Tomul LIV(LVIII), Fasc. 4, Machine manufacturing Section, 2008; ISSN 1011-2855; pp. 417-422.
- R-II.16. Barbu, I.; **Barbu, D.M.** *Virtual prototyping methods applied to agriculture vehicles*, Bulletin of Polytechnic Institute Iasi, Tomul LIV(LVIII), Fasc. 4, Machine manufacturing Section, 2008; ISSN 1011-2855; pp. 423-428, ISSN 1011-2855.
- R-II.17. Luculescu, M.C.; **Barbu, D.M.**; Barbu, I. *Graphical user interface for data acquisition systems based on microcontrollers*, Bulletin of Polytechnic Institute Iasi, Tomul LIV(LVIII), Fasc. 4, Machine manufacturing Section, 2008; ISSN 1011-2855; pp. 379-384.
- R-II.18. **Barbu, D.M.**; Barbu, I. *Properties of new materials used in human prosthetics and orthotics*, Acta Electrotehnica, vol. 48, nr. 4, 2007; ISSN 1841-3323; pp. 423-428.
- R-II.19. **Barbu, D.M.** *Proposal model for human body behaviour in a medium polluted by vertical vibrations*, Acta Electrotehnica, vol. 48, nr. 4, 2007; ISSN 1841-3323; pp. 445-448.
- R-II.20. **Barbu, D.M.** *Eye-movement Modelling*, Annals of the Oradea University, Fascicle of Management and Technological Engineering, CD-ROM Edition, Vol. VI(XVI), Oradea, 2007; ISSN 1583-0691; pp. 803-807.

- R-II.21. **Barbu, D.M.**, Barbu, I. *Experimental Model of the Human Behavior in a Vibrational Medium*, Annals of the Oradea University, Fascicle of Management and Technological Engineering, CD-ROM Edition, Vol. VI(XVI), Oradea, 2007; ISSN 1583-0691; pp. 808-811.
- R-II.22. **Barbu, D.M.**, Barbu, I.; Drugă, C. *Theoretical Considerations Concerning the Human Body Behavior in a Vibrational Medium*, Annals of the Oradea University, Fascicle of Management and Technological Engineering, CD-ROM Edition, Vol. VI(XVI), Oradea, 2007; ISSN 1583-0691; pp. 812-820.
- R-II.23. Drugă, C.; **Barbu, D.M.**; Lache, S. *Vibration and Human Body*, Annals of the Oradea University, Fascicle of Management and Technological Engineering, CD-ROM Edition, Vol. VI(XVI), Oradea, 2007; ISSN 1583-0691; pp. 168-173.
- R-II.24. Drugă, C.; **Barbu, D.M.**; Lache, S. *Corelation Between Noise, Vibrations and Human Body*, Annals of the Oradea University, Fascicle of Management and Technological Engineering, CD-ROM Edition, Vol. VI(XVI), Oradea, 2007; ISSN 1583-0691; pp. 174-179.
- R-II.25. **Barbu, D.M.**; Barbu, I. *Modeling of Human Dynamics*, Annals of the Oradea University, Fascicle of Management and Technological Engineering, CD-ROM Edition, Vol. IV(XIV), Oradea, 2005; ISSN 1583-0691; pp. 474-481.
- R-II.26. **Barbu, D.M.**, Barbu, I. *Aspects of ocular biomechanics*, Annals of the Oradea University, Fascicle of Management and Technological Engineering, CD-ROM Edition, Vol. IV(XIV), Oradea, 2005; ISSN 1583-0691; pp. 482-487.
- R-II.27. **Barbu, D.M.** *Mechatronical application of optometry*, Revista Mecatronica, nr. 3/2004; ISSN 1583-7653; pp. 5-8.
- R-II.28. **Barbu, D.M.** *Cervical Spine Kinematics*, Bulletin of the „Transilvania” University from Brasov, 2002, Series A, Vol. 9 (44), ISSN 1223-9631; pp. 59-62.

**R-III. Articles published in Romanian journals recognized by CNCSIS
B + category but not BDI indexed**

- R-III.1. **Barbu D.M.** *About Virtual Eye Concept*, Acta Technica Napocensis, Applied Mathematics and Mechanics Series, 49, Vol. II, 2006; ISSN 1221-5872; pag. 201-206.
- R-III.2. **Barbu D.M.**; Barbu, I. *Modeling of the Seated Human Body Behavior in a Vibrational Environment – Application to Tractor Driving*, Acta Technica Napocensis, Applied Mathematics and Mechanics Series, 49, Vol. II, 2006; ISSN 1221-5872; pp. 207-212.
- R-III.3. **Barbu, D.M.** *Proposal Model for Human Body Behavior analyses in a Vibrational Medium*, Buletinul Institutului Politehnic Iași, Tomul LII (LVI), Fasc.6A, 2006; ISSN 1011-2855; pp. 35-42.
- R-III.4. **Barbu D.M.**; Barbu, I. *Shock and vibration effects on the human body*, Bulletin of Polytechnic Institute Iasi, Tomul LII (LVI), fasc. 5D, Machine manufacturing Section, 2006; ISSN 1011-2855; pp. 1207-1214.
- R-III.5. **Barbu D.M.**; Barbu, I. *Characteristics of the human body used to analyze the influence of shock and vibration on it*, Bulletin of Polytechnic Institute Iasi, Tomul LII (LVI), fasc. 5D, Machine manufacturing Section, 2006; ISSN 1011-2855; pp. 1215-1222.
- R-III.6. **Barbu D.M.** *The modeling of the behavior of the human body in a vibration environment*, Bulletin of Polytechnic Institute Iasi, Tomul LII (LVI), fasc. 5D, Machine manufacturing Section, 2006; ISSN 1011-2855; pp. 1223-1230.
- R-III.7. **Barbu, D.M.** *Contributions to modeling and simulation of the visual function to prosthetics and orthotocs*, Review of Science Policy and Scientometrics, special number 2005, ISSN 1582-1218;
- R-III.8. **Barbu, D.M.** *A History of the Visual Instruments*, Annals of the Oradea University, Fascicle of Management and Technological Engineering, Vol. II(XII), 2003; ISSN 1583-0691; CD-ROM Edition.
- R-III.9. **Barbu, D.M.** *A Medical Application for Optometry*, Annals of the Oradea University, Fascicle of Management and Technological Engineering, Vol. II(XII), 2003, ISSN 1583-0691; CD-ROM Edition.

R-III.10. **Barbu, D.M.** *Biomechanical Models of the Human Body*, Bulletin of the „Transilvania” University from Brasov, 2003, Series A1, Vol. 10 (45); ISSN 1223-9631; pp. 59-62.

R-III.11. **Barbu, D.** *Biomechanical Human Eye Model*, Bulletin of the „Transilvania” University from Brasov, 2000, Vol. 7 (42), Series A; ISSN 1223-9631; pp. 103-106.

R-III.12. **Barbu, D.** *General Aspects of Tribology*, Bulletin of the „Transilvania” University from Brasov, 1999, Vol. 6 (41), Series A; ISSN 1223-9631; pp. 71-74.

R-IV. Articles published Romanian journals recognized by CNCIS rated B category

R-IV.1. **Barbu, D.M.**; Barbu, I. *Modern Materials Used in Eyeglasses Manufacturing*, Nonconventional Technologies Review, nr. 2/2006; ISBN 1454-3087; pp. 105-110.

R-IV.2. **Barbu, D.M.**; Barbu, I. *Engineering Materials Used in Prosthetics and Orthotics*, Nonconventional Technologies Review, nr. 2/2006; ISBN 1454-3087; pp. 111-118.

R-IV.3. Olariu, V.; Cîrîc, D. (**Barbu, D.**) *Vertical vibrations of the human body*, Acta Universitatis Cibiniensis, vol. XVII, Technical Series – C. Applied Mechanics, ISSN 1221-4957, pp. 105-111, Sibiu, 1995;

R-IV.4. Olariu, V.; Cîrîc, D. (**Barbu, D.**) *On the dynamics of the human torso*, Romanian Journal of Fine Mechanics and Optics, A supliment, 1994; ISSN 1220-6830; pp. 84-91.

PAPERS IN INTERNATIONAL CONFERENCES

CI-I. Scientific papers published in the proceedings of international conferences

ISI indexed

CI-I.1. **Barbu D.M.**; Plesa I.M. *Techniques and Optometric Tools for Visual Training in Strabismus for Preschool Children*, The 5th IEEE International Conference on E-Health and Bioengineering (EHB 2015), Iași, Romania, November 19-21, 978-1-4673-7545-0, 2015.

CI-I.2. **Barbu D.M.**; Vitelariu A.L. *Optometric Testing for Binocular Vision in Preschool Children*, The 5th IEEE International Conference on E-Health and Bioengineering - EHB 2015, Iași, Romania, November 19-21, 978-1-4673-7545-0, 2015.

CI-I.3. **Barbu, D.M.**; Dumitriu, A.; Lache, S.; Barbu, I. *An Overview about Modern Rehabilitation Techniques for Locomotor System*, Annals of DAAAM for 2009 & Proceedings of DAAAM International Symposium, "Intelligent Manufacturing & Automation: Theory, Practice & Education", 25-28 November 2009, Vienna, Austria; vol. 20; ISBN 978-3-901509-70-4; pp. 1195-1196.

CI-I.4. **Barbu, D.M.**; Dumitriu, A.; Lache, S.; Barbu, I., Druga, C. *A Proposed Orthotic Model for Locomotor Rehabilitation*, Annals of DAAAM for 2009 & Proceedings of DAAAM International Symposium, "Intelligent Manufacturing & Automation: Theory, Practice & Education", 25-28 November 2009, Vienna, Austria; vol. 20; ISBN 978-3-901509-70-4; pp. 1197-1198.

CI-I.5. Dumitriu, A.; **Barbu, D.M.** *Use of Inertial Sensors in Lower-Limb Rehabilitation Device*, Annals of DAAAM for 2009 & Proceedings of DAAAM International Symposium, "Intelligent Manufacturing & Automation: Theory, Practice & Education", 25-28 November 2009, Vienna, Austria; vol. 20; ISBN 978-3-901509-70-4; pp. 1209-1210.

CI-I.6. Lache, S.; Luculescu, M., **Barbu D.** *A low-cost solution for controlling human body vibrations*, Annals of DAAAM for 2009 & Proceedings of Daaam International Symposium, "Intelligent Manufacturing & Automation: Theory, Practice & Education", 25-28 November 2009, Vienna, Austria; vol. 20; ISBN 978-3-901509-70-4; pp. 725-726.

CI-I.7. Barbu, I.; **Barbu, D.M.**, Lache, S. *Some Models of Virtual Prototypes Device for Leg Orthoses*, Annals of DAAAM for 2009 & Proceedings of Daaam International Symposium, "Intelligent Manufacturing & Automation: Theory, Practice & Education", 25-28 November 2009, Vienna, Austria; ISBN 978-3-901509-70-4; vol. 20; pp. 1189-1190.

- CI-I.8. Drugă, C.; **Barbu, D.**; Şerban, I.; Radu, C. *Rapid Prototyping Technology Used for Manufacturing of an Adapted Medical Implant Prototype*, Annals of DAAAM for 2009 & Proceedings of Daaam International Symposium, "Intelligent Manufacturing & Automation: Theory, Practice & Education", 25-28 November 2009, Vienna, Austria; ISBN 978-3-901509-70-4; vol. 20; pp. 1487-1488.
- CI-I.9. **Barbu, D.M.**; Barbu, I. *Dynamical Model for an Original Mechatronical Rehabilitation System*, The 8th WSEAS International Conference on System Science and Simulation in Engineering, Genova, Italy, October 17-19, 2009 – paper 626-273; Publ. In Proceedings of The 14th WSEAS International Conference On Applied Mathematics (MATH '09); ISBN 978-960-474-138-0; pp. 23-27.
- CI-I.10. **Barbu, D.M.**; Barbu, I. *Considerations Concerning Mechatronical Systems for Medical Rehabilitation*, Proceedings of The 4th WSEAS International Conference on Applied and Theoretical Mechanics (MECHANICS'08), Cairo, Egypt, December 29-31, 2008; ISBN 978-960-474-046-8; ISSN 1790-2769; pp. 112-117.
- CI-I.11. **Barbu, D.M.**; Lache, S.; Barbu, I. *Considerations about Human Behavior in a Vibrational Medium*, Proceedings of the 3rd WSEAS International Conference on Applied and Theoretical Mechanics (MECHANICS 07), Puerto De La Cruz, Tenerife, Canary Islands, Spain, December 14-16, 2007; ISBN 978-960-6766-19-0, ISSN 1790-2769, pp. 100-105.
- CI-I.12. **Barbu, D.M.** *Numerical Methods used in Analyses of the Human Behaviour in a Vibrational Medium*, Annals of DAAAM for 2007 & Proceedings of the The 18th International DAAAM Symposium „Intelligent Manufacturing & Automantion: Focus on Creativity, Responsibility and Ethics of Engineers”, 24-27 october 2007, Zadar, Croatia; ISBN 3-901509-58-5, ISSN 1726-9679; pp. 055-056.
- CI-I.13. **Barbu, D.M.**; Barbu, I. *Experimental Methods used in Analyses of the Human Behavior in a Vibrational Medium*, Annals of DAAAM for 2007 & Proceedings of The 18th International DAAAM Symposium „Intelligent Manufacturing & Automantion: Focus on Creativity, Responsibility and Ethics of Engineers”, 24-27 october 2007, Zadar, Croatia; ISBN 3-901509-58-5, ISSN 1726-9679; pp. 057-058.
- CI-I.14. **Barbu, D.M.**; Barbu I. *New Optical Technologies in Optometry*, Proceedings of The 4th International Conference RoEduNet Romania „Education/Training and Information/Communication Technologies – ROEDUNET '05”, 20-22 mai 2005, Tg. Mureş; ISBN 973-7794-26-5; pp. 76-80.
- CI-I.15. Barbu, I., **Barbu D.M.** *New CAD/CAM/CAE Technologies in Mechanical Engineering*, Proceedings of The 4th International Conference RoEduNet Romania „Education/Training and Information/Communication Technologies – ROEDUNET '05”, 20-22 mai 2005, Tg. Mureş, ISBN 973-7794-26-5; pp. 81-86.
- CI-I.16. **Barbu, D.M.**; Barbu I.; Luculescu M. *Modelling and Control of Eye-Movement*, Annals of DAAAM for 2003 and Proceedings of The 14th International DAAAM Symposium “Intelligent manufacturing & Automation: Focus on Reconstruction and Development”, 22-25 oct. 2003, Sarajevo, Bosnia and Herzegovina; ISSN 1726-9679; pp. 029-030.

CI-II. Scientific papers published in the proceedings of international conferences

BDI indexed

- CI-II.1. Baritz, M.; **Barbu, D.M.** *Analysis by Video Methods of Nystagmus in Simulated and Stimulated Movements*, The 6th International Conference on Computational Mechanics and Virtual Engineering (COMEC2015), 15-16 october 2015; Brasov, Romania; ISSN 2457-8541 & L 2457-8541; pp. 367-370.
- CI-II.2. Golinschi, A.; Baritz, M.; Cotoros, D.; **Barbu, D.M.** *Correlative Analysis Methodology For Plantar Pressure Versus Footwear Type During Gait Cycle*, Proceedings of the 15th Romanian Textiles and Leather Conference, 4-6 september 2014, Poiana Brasov, Romania (CORTEP 2014); ISSN-L 2285-5378; pp. 501-506;
- CI-II.3. Golinschi, A.; Baritz, M.; Cotoros, D.; **Barbu, D.M.** *Evaluation by Digital Microscopy of Insoles Anizotropic Structures Subjected to Mechanical Deformations*, Proceedings of the 15th Romanian Textiles and Leather Conference, 4-6 september 2014, Poiana Brasov, Romania (CORTEP 2014); ISSN-L 2285-5378; pp. 495-500;

- CI-II.4. Pascu, A.M.; **Barbu, D.M.**; Barbu, I.; Neica, L.; Fleancu, A. *Applying engineering in healthcare: A proposed computer-assisted mathematical model for atherosclerotic cardiovascular risk assessment*, Proceedings of the 12th WSEAS International Conference on Mathematical and Computational Methods in Science and Engineering (MACMESE'10); Faro; Portugal; 3-5 November 2010; ISSN 1792-6114; pp. 252-257.
- CI-II.5. Druga, C.; **Barbu, D.**; Serban, I. *Femur Bone Model by Using a 3d Scanning Method*, The 3rd International Conference Advanced Composite Materials Engineering (COMAT 2010), Brasov, Romania, 27-29 October 2010; vol. 3; ISSN 1844-9336; pp. 59-62.
- CI-II.6. **Barbu, D. M.**, Lache S., Barbu, I. *Experimental Prototyping for an Orthotic Device for Human Inferior Member*, The 3rd International Conference on "Computational Mechanics and Virtual Engineering" (COMEC 2009), 29-30 October 2009, Brasov, Romania; ISBN 978-973-598-572-1; pp. 23-28.
- CI-II.7. **Barbu, D. M.**, Barbu, I., Druga, C. *Mechanical Requirements Used in Numerical Analysis of the Human Locomotion*, The 3rd International Conference on "Computational Mechanics and Virtual Engineering" (COMEC 2009), 29-30 October 2009, Brasov, Romania; ISBN 978-973-598-572-1; pp. 19-22.
- CI-II.8. Lache, S., **Barbu, D.**, Barbu, I. *Modeling and simulation of a knee orthosis active part*, The 3rd International Conference on "Computational Mechanics and Virtual Engineering" (COMEC 2009), 29-30 October 2009, Brasov, Romania; ISBN 978-973-598-572-1; pp. 373-376.
- CI-II.9. Druga C, Radu C, **Barbu D**, Serban I. *Determination of Dynamical Parameters of the Human Gait Using Force Plate*, The 3rd International Conference on "Computational Mechanics and Virtual Engineering" (COMEC 2009), 29-30 October 2009, Brasov, Romania; ISBN 978-973-598-572-1; pp. 208-214.
- CI-II.10. **Barbu, D.M.** *Human Behavior in a Vibrational Medium. Theoretical Considerations*, Proceedings of the Conference B.E.N.A.-ICAI 2007, Sustainable Development in the Balkan Area: Vision and Reality, Alba Iulia, 18-20 iulie 2007, ISBN 978-973-7942-88-3, pp. 215.
- CI-II.11. **Barbu, D.M.** *Correlations Between Mechanical Vibrations and Human Health*, 11th International Research/Expert Conference "Trends in the Development of Machinery and Associated Technology" (TMT 2007), Hammamet, Tunisia, 05-09 September, 2007, ISBN 978-9958-617-34-8, pp. 779-782.
- CI-II.12. **Barbu, D.M.**; Barbu, I. *Numerical Simulation of the Human Behavior in a Medium Polluted by Shocks and Vibrations*, 11th International Research/Expert Conference "Trends in the Development of Machinery and Associated Technology" (TMT 2007), Hammamet, Tunisia, 05-09 September, 2007, ISBN 978-9958-617-34-8, pp. 783-786.
- CI-II.13. **Barbu D.M.**; Barbu I. *Modelling of the Human Behaviour in a Vibrational Medium*, International Workshop „Advanced Research in Computational Mechanics and Virtual Engineering” (COMAT 2006), Brasov, 18-20 oct. 2006; ISBN 973-635-823-2; ISBN 978-973-635-821-0; CD-ROM Edition, Section 3, Extras pp. 292-298.
- CI-II.14. **Barbu D.M.**; Luculescu M. *Modeling of the Human Vision*, International Workshop „Advanced Research in Computational Mechanics and Virtual Engineering” (COMAT 2006), Brasov, 18-20 oct. 2006; ISBN 973-635-823-2; ISBN 978-973-635-821-0; CD-ROM Edition, Section 3, Extras pp. 314-318.
- CI-II.15. **Barbu D.M.**, Barbu I., Luculescu M. *Basics Of Complete Biomechanical Models For Strabismus*, Proceedings of The 1st International Conference on Computational Mechanics and Virtual Engineering (COMEC 2005), Brasov 20-22 October 2005; ISBN 973-635-593-4; CD-ROM EDITION, Additional volume, pp. 7-13.
- CI-II.16. **Barbu D.M.**, Barbu I., Luculescu M. *Some Aspects About Virtual Eye Concept*, Proceedings of The 1st International Conference on Computational Mechanics and Virtual Engineering (COMEC 2005), Brasov 20-22 October 2005, ISBN 973-635-593-4; CD-ROM EDITION, Additional volume, pp. 14-20.
- CI-II.17. Barbu I., Luculescu M., **Barbu D.M.** *Virtual Prototyping Methods Applied in Mechanical Engineering*, Proceedings of the 1st International Conference on Computational Mechanics and Virtual Engineering (COMEC 2005), 20-22 oct. 2005, Brasov; ISBN 973-635-593-4; CD-ROM EDITION, pp. 237-240.

CI-II.18. Luculescu, M., Lache, S., **Barbu, D.**, Barbu, I. *Feature Extraction Methods Used For Images Of Macular Diseases – Part I*, Proceedings of The 1st International Conference on Computational Mechanics and Virtual Engineering (COMEC 2005), Brasov 20-22 October 2005; ISBN 973-635-593-4; CD-ROM EDITION, Additional volume, pp. 48-54.

CI-II.19. Luculescu, M., Lache, S., **Barbu, D.**, Barbu, I. *Feature Extraction Methods Used For Images Of Macular Diseases – Part II*, Proceedings of The 1st International Conference on Computational Mechanics and Virtual Engineering (COMEC 2005), Brasov 20-22 October 2005; ISBN 973-635-593-4; CD-ROM EDITION, Additional volume, pp. 55-60.

CI-II.20. **Barbu, D.M.**; Barbu I. *Modeling of the Human Body in Accident Simulation*, Proceedings of The 10th International Congress “Automotive and Future Technologies” (CONAT 2004), Brasov, 20-22 oct. 2004, paper 20044085, CD-ROM Edition, MGM-0231-7002-34, Book of Abstract of The 10th International Congress CONAT 2004, Brasov; ISBN 973-635-394-X; pp. 216.

CI-II.21. **Barbu, D.M.**; Barbu I. *A human FEM presentation*, Proceedings of The 10th International Congress “Automotive and Future Technologies” (CONAT 2004), Brasov, 20-22 oct. 2004, paper 20044086, CD-ROM Edition, MGM-0231-7002-34, Book of Abstract of The 10th Internat. Congress CONAT 2004; ISBN 973-635-394-X; pp. 217.

CI-III. Scientific papers published in the proceedings of international conferences with committee of reviewers

CI-III.1. Baritz, M.; Cotoros, D.; **Barbu, D.M.**; Balcu I. *Analysis of the Mobility and Manipulation Degree After Exposure to Controlled Vibrations in the Human Body*, International Conference “New Trends on Sensing- Monitoring- Telediagnosis for Life Sciences”, July 24-26, 2014, Brasov, Romania; Vol. II – Food and Environment; ISBN 978-606-19-0390-0 pp. 120-124.

CI-III.2. **Barbu, D.** *Numerical Simulation of the Human Visual Function for an Emmetropic Eye*, 2008 IEEE International Conference on Automation, Quality and Testing Robotics, AQTR 2008 (THETA 16), May 22-25 2008, Cluj Napoca, Romania; ISBN 978-973-713-248-2; pp. 269-274.

CI-III.3. **Barbu, D.**; Barbu, I. *Factors That Influences the Behavior of the Human Body to Shocks and Vibrations*, 2008 IEEE International Conference on Automation, Quality and Testing Robotics, AQTR 2008 (THETA 16), May 22-25 2008, Cluj Napoca, Romania; ISBN 978-973-713-248-2; pp. 280-285.

CI-III.4. **Barbu, D.M.**; Barbu, I. *Experimental Considerations Concerning The Human Behavior in a Vibrational Medium*, Advanced Composite Materials Engineering and Advanced Human Body Protection To Vibrations (COMAT 2008), vol. 1B; ISSN 1844-9336, pp. 427-431.

CI-III.5. **Barbu, D.M.**; Barbu, I. *Theoretical Considerations Concerning The Human Behavior in a Vibrational Medium*, Advanced Composite Materials Engineering and Advanced Human Body Protection To Vibrations (COMAT 2008), vol. 1B; ISSN 1844-9336, pp. 432-439.

CI-III.6. **Barbu, D.M.**; Balcu, I.; Barbu, I. *The Environmental Effects of Pollution With Shocks and Vibrations on Human Health*, 3rd International Conference “From Scientific Computing to Computational Engineering, 3rd IC-SCCE, Athens, 9-12 July, 2008, CD-ROM EDITION.

CI-III.7. **Barbu, D.M.**; Balcu, I.; Barbu, I. *The Influence of the Shocks and Vibrations on the Visual Function*, 3rd International Conference “From Scientific Computing to Computational Engineering, 3rd IC-SCCE, Athens, 9-12 July, 2008, CD-ROM EDITION.

CI-III.8. **Barbu, D.M.**; Barbu, I. *Human Behavior in a Vibrational Medium. Experimental Considerations*, Proceedings of the Conference B.E.N.A.-ICAI 2007, Sustainable Development in the Balkan Area: Vision and Reality, Alba Iulia, 18-20 iulie 2007, ISBN 978-973-7942-88-3, pp. 216.

CI-III.9. **Barbu, D.M.**; Barbu, I. *Analytical Model for Whole-Body Vibration Analyses*, Proceedings of the 2nd International Conference on Electronics, Computers and Artificial Intelligence (ECAI 2007), 29th – 30th June, Pitesti, Number 1/2007, ISSN 1843-2115, pp. 21BB-28BB;

CI-III.10. **Barbu, D.M.** *Human Visual Function Simulation*, Proceedings of the 2nd International Conference on Electronics, Computers and Artificial Intelligence (ECAI 2007), 29th – 30th June, Pitesti, Number 1/2007, ISSN 1843-2115, pp. 53BB-56BB;

CI-IV. Scientific papers published in volumes of other national / international conferences

- CI-IV.1. **Barbu, D.M.**; Barbu, I. *About Medical Robots*, Al V lea Simpozion cu participare internațională „Mecatronică, Microtehnologii și Materiale Noi” MMMN’07, Târgoviște 16-17 noiembrie 2007, pp. 40-48, CD-ROM Edition;
- CI-IV.2. **Barbu, D.M.** *About Human Orthoses*, Al V lea Simpozion cu participare internațională „Mecatronică, Microtehnologii și Materiale Noi” MMMN’07, Târgoviște 16-17 noiembrie 2007, pp. 49-57, CD-ROM Edition;
- CI-IV.3. **Barbu, D.M.** *Simulation of optical visual function*, Proceedings of the First National Conference "Optometry and Medical Engineering" (COPTOMIM 2006), 9-10 iunie 2006, Brasov; ISBN (10) 973-635-726-0; ISBN (13) 978-973-635-726-8; pp. 7-10.
- CI-IV.4. **Barbu, D.M.** *Ocular biomechanical modeling*, Proceedings of the First National Conference "Optometry and Medical Engineering" (COPTOMIM 2006), 9-10 iunie 2006, Brasov; ISBN (10) 973-635-726-0; ISBN (13) 978-973-635-726-8; pp. 11-14.
- CI-IV.5. **Barbu, D.M.**; Luculescu, M. *Analysis of image formation point by a real optical system (human eye)*, Proceedings of the First National Conference "Optometry and Medical Engineering" (COPTOMIM 2006), 9-10 iunie 2006, Brasov; ISBN (10) 973-635-726-0; ISBN (13) 978-973-635-726-8; pp. 15-18.
- CI-IV.6. **Barbu, D.M.**; Luculescu, M. *Biomechanical Models for Strabismus*, Proceedings of the First National Conference "Optometry and Medical Engineering" (COPTOMIM 2006), 9-10 iunie 2006, Brasov; ISBN (10) 973-635-726-0; ISBN (13) 978-973-635-726-8; pp. 19-22.
- CI-IV.7. Barbu, I; **Barbu, D.M.** *Shock and vibration effects on the human body*, Proceedings of the First National Conference "Optometry and Medical Engineering" (COPTOMIM 2006), 9-10 iunie 2006, Brasov; ISBN (10) 973-635-726-0; ISBN (13) 978-973-635-726-8; pp. 23-26.
- CI-IV.8. Barbu, I; **Barbu, D.M.** *Experimental methods in analyzing the behavior of the human body to shock and vibration*, Proceedings of the First National Conference "Optometry and Medical Engineering" (COPTOMIM 2006), 9-10 iunie 2006, Brasov; ISBN (10) 973-635-726-0; ISBN (13) 978-973-635-726-8; pp. 27-30.
- CI-IV.9. **Barbu, D.M.**; Braun, M. *Mechanism Used in Eyeglasses Manufacture*, The IV International Symposium on "Mechatronics, Microtechnologies and New Materials", Târgoviște, 7-9 dec. 2006, Publicat în Supliment la Revista Română de Mecanică fină, Optică și Mecatronică, nr. 31/2006; ISSN 1584-5982; pp. 89-97.
- CI-IV.10. **Barbu, D.M.**; Luculescu, M. *About Intelligent Orthosis*, The IV International Symposium on "Mechatronics, Microtechnologies and New Materials", Târgoviște, 7-9 dec. 2006, Publicat în Supliment la Revista Română de Mecanică fină, Optică și Mecatronică, nr. 31/2006; ISSN 1584-5982; pp. 98-105.
- CI-IV.11. **Barbu, D.M.**; Barbu, I. *Analytical Model of the Human Behaviour in a Vibrational Medium*, Al IV-lea Simpozion cu participare Internațională „Mecatronică, Microtehnologii și materiale noi”, Târgoviște, 7-9 dec. 2006, Publicat în Supliment la Revista Română de Mecanică fină, Optică și Mecatronică, nr. 31/2006; ISSN 1584-5982; pp. 106-113.
- CI-IV.12. **Barbu, D.M.**; Barbu, I. *Experimental Analyses of the Human Behaviour in a Vibrational Medium*, The IV International Symposium on "Mechatronics, Microtechnologies and New Materials", Târgoviște, 7-9 dec. 2006, Publicat în Supliment la Revista Română de Mecanică fină, Optică și Mecatronică, nr. 31/2006; ISSN 1584-5982; pp. 114-117.
- CI-IV.13. **Barbu, D.M.**; Luculescu, M.; Braun, M. *New Robots Used in Medicine*, The IV International Symposium on "Mechatronics, Microtechnologies and New Materials", Târgoviște, 7-9 dec. 2006, Publicat în Supliment la Revista Română de Mecanică fină, Optică și Mecatronică, nr. 31/2006; ISSN 1584-5982; pp. 118-123.
- CI-IV.14. **Barbu, D.M.** *Optical Human Eye Model*, The IV International Symposium on "Mechatronics, Microtechnologies and New Materials", Târgoviște, 7-9 dec. 2006, Publicat în Supliment la Revista Română de Mecanică fină, Optică și Mecatronică, nr. 31/2006; ISSN 1584-5982; pp. 124-130.

- CI-IV.15. **Barbu, D.M.**; Barbu, I. *Dynamical Models of the Human Body*, The 11th International Conference TRANS&MOTO'05+, lucrarea 11, noiembrie 2005, Veliko-Tarnovo, Bulgaria.
- CI-IV.16. **Barbu, D.M.**; Barbu, I. *Influence of the Vibrations on the Human Body*, The 11th International Conference TRANS&MOTO'05+, lucrarea 12, noiembrie 2005, Veliko-Tarnovo, Bulgaria.
- CI-IV.17. **Barbu, D.M.**; Barbu, I. *Principal type of vibrations which affect the human body*, Proceedings of the Scientific Conference with International Participation INTER-ING 2005, Târgu Mureș, 10-11 nov. 2005, CD-ROM Edition, Section 3; ISBN 973-7794-41-9; pp. 249-254.
- CI-IV.18. **Barbu, D.M.**; Luculescu, M. *Mechatronic device used in optometry*, Proceedings of the Scientific Conference with International Participation INTER-ING 2005, Târgu Mureș, 10-11 nov. 2005, CD-ROM Edition, Section 3; ISBN 973-7794-41-9; pp. 255-260.
- CI-IV.19. **Barbu D.M.**; Barbu I. *Whole-Body Vibrations Analyses*, Al III-lea Simpozion Internațional "Mecatronica, Microtehnologii, Materiale Noi", Târgoviște, 18-19 nov. 2005, CD-ROM Edition, Secțiunea III, Publicat în Revista Română de Mecanică fină, Optică și Mecatronică, Supliment la Nr. 28/2005; ISSN 1584-5982; pp. 59-64.
- CI-IV.20. **Barbu D.M.** *Simulation of contact oeil/lentille*, The III International Symposium "Mechatronics, Microtechnologies, New Materials", Târgoviște, 18-19 nov. 2005, CD-ROM Edition, Secțiunea III, Publicat în Revista Română de Mecanică fină, Optică și Mecatronică, Supliment la Nr. 28/2005; ISSN 1584-5982; pp. 65-72.
- CI-IV.21. **Barbu D.M.**; Barbu I. *Modeling of the Seated Human Body Behavior in a Vibrational Environment*, The III International Symposium "Mechatronics, Microtechnologies, New Materials", Târgoviște, 18-19 nov. 2005, CD-ROM Edition, Secțiunea III, Publicat în Revista Română de Mecanică fină, Optică și Mecatronică, Supliment la Nr. 28/2005; ISSN 1584-5982; pp. 73-76.
- CI-IV.22. **Barbu D.M.**; Luculescu M. *An overview about Computer Vision*, The III International Symposium "Mechatronics, Microtechnologies, New Materials", Târgoviște, 18-19 nov. 2005, CD-ROM Edition, Secțiunea III, Publicat în Revista Română de Mecanică fină, Optică și Mecatronică, Supliment la Nr. 28/2005; ISSN 1584-5982; pp. 77-80.
- CI-IV.23. Luculescu, M.; **Barbu, D.** *Matlab Graphical User Interface for Image Feature Extraction*, The III International Symposium "Mechatronics, Microtechnologies, New Materials", Târgoviște, 18-19 nov. 2005, CD-ROM Edition, Secțiunea III, Publicată în Revista Română de Mecanică fină, Optică și Mecatronică, Supliment la Nr. 28/2005; ISSN 1584-5982; pp. 85-90.
- CI-IV.24. Barbu I.; **Barbu D.M.** *Alert System for Agricultural Tractor Safety Using Ultrasonic Sensors*, The III International Symposium "Mechatronics, Microtechnologies, New Materials", Târgoviște, 18-19 nov. 2005, CD-ROM Edition, Secțiunea III, Publicat în Revista Română de Mecanică fină, Optică și Mecatronică, Supliment la Nr. 28/2005; ISSN 1584-5982; pp. 51-54.
- CI-IV.25. **Barbu, D.M.** *Optical simulation of visual function - The optical model for eye*, Proceedings of the International Conference Modern Technologies, Quality, Restructuring (TMCR 2005), Chișinău, Moldova, 19-21 mai 2005, vol. 2; ISBN 9975-9875-5-9; pp. 30-33.
- CI-IV.26. **Barbu, D.M.** *Optical simulation of visual function - Determination of image quality – Part I*, Proceedings of the International Conference Modern Technologies, Quality, Restructuring (TMCR 2005), Chișinău, Moldova, 19-21 mai 2005, vol. 2; ISBN 9975-9875-5-9; pp. 34-37.
- CI-IV.27. **Barbu, D.M.** *Optical simulation of visual function - Determination of image quality - Part II*, Proceedings of the International Conference Modern Technologies, Quality, Restructuring (TMCR 2005), Chișinău, Moldova, 19-21 mai 2005, vol. 2; ISBN 9975-9875-5-9; pp. 38-41.
- CI-IV.28. **Barbu, D.M.** *Modeling eye movements*, Proceedings of the International Conference Modern Technologies, Quality, Restructuring (TMCR 2005), Chișinău, Moldova, 19-21 mai 2005, vol. 2; ISBN 9975-9875-5-9; pp. 348-351.
- CI-IV.29. **Barbu, D.M.** *Optical Techologies in Optometry*, Proceedings of The International Conference of European Microelectronics and Packaging Symposium EMPS'04, Prague 16th to 18th June 2004, Czech Republic, Poster Sesion, P34;

- CI-IV.30. **Barbu, D.M.**; Barbu I. *Optometry as an electro-bio-medical application*, Proceedings of The International Conference of European Microelectronics and Packaging Symposium (EMPS'04), Prague 16th to 18th June 2004, Czech Republic, Poster Sesion, P35;
- CI-IV.31. **Barbu, D.M.** *Biomechanical Simulation for Refractive Human Cornea*, Proceedings of the VII-th International Conference on Mechatronics and Precision Engineering (COMEFIM7), București, 27-29 mai 2004; ISBN 973-86886-1-2; CD-ROM Edition, In Proceedings (abstracts) pp. 141-142.
- CI-IV.32. **Barbu, D.M.**; Barbu I., *The influence of vibration on the human body*, Proceedings of the VII-th International Conference on Mechatronics and Precision Engineering (COMEFIM7), București 27-29 mai 2004; ISBN 973-86886-1-2; CD-ROM Edition, In Proceedings (abstracts) pp. 143-144.
- CI-IV.33. **Barbu, D.M.** *Introduction to Computer Vision Syndrome*, National Conference with international participation BIBLIO 2003, Brasov, 8-10 mai 2003; ISBN 973-635-173-4; pp. 161-16.
- CI-IV.34. **Barbu, D.M.**; Repanovici, A. *Students and Computers in Reading Rooms*, National Conference with international participation BIBLIO 2003, Brasov, 8-10 mai 2003; ISBN 973-635-173-4; pp. 161-164.
- CI-IV.35. **Barbu, D.M.** *Viscoelastic Properties of Plastic ankle-foot orthoses*, Proceedings of The International Conference on Materials Science and Engineering (BRAMAT 2003), Brasov 13-14 march 2003, vol. IV; ISBN 973-635-126-2; pp. 108-113.
- CI-IV.36. **Barbu, D.M.** *Introduction in Biomaterials Application*, Proceedings of The International Conference on Materials Science and Engineering (BRAMAT 2003), Brasov 13-14 march 2003, vol. IV; ISBN 973-635-126-2; pp. 114-119.
- CI-IV.37. **Barbu, D.M.** *Biomechanical Simulations for Refractive Human Cornea*, Conferința internațională Modern Technologies, Quality, Restructuring (TMCR 2003), 29-31 mai 2003, Chișinău, Moldova; ISBN 9975-9748-0-5;
- CI-IV.38. **Barbu, D.M.** *Optical Technologies in Optometry - Micro Displays as Intraocular Vision Aid*, Conferința internațională Modern Technologies, Quality, Restructuring (TMCR 2003), 29-31 mai 2003, Chișinău, Moldova; ISBN 9975-9748-0-5;
- CI-IV.39. **Barbu, D.M.** *The behavior of the visual analyzer to shocks and vibrations*, Proceedings of the VI-th International Conference on Precision Mechanics and Mechatronics COMEFIM 6, Brasov, 10-12 oct. 2002, Publ. in The Romanian Review of Precision Mechanics, Optics and Mechatronics, Supplement 20b, vol. 2-20b, ISSN 1220-6830; pp. 279-282.
- CI-IV.40. **Barbu, D.M.** *Simulation of the contact eye - eyelid*, Proceedings of the VI-th International Conference on Precision Mechanics and Mechatronics COMEFIM 6, Brasov, 10-12 oct. 2002, Publ. in The Romanian Review of Precision Mechanics, Optics and Mechatronics, Supplement 20b, vol. 2-20b; ISSN 1220-6830; pp. 283-288.
- CI-IV.41. **Barbu, D.M.** *Modelling and Control of Eye-movement*, Proceedings of the VI-th International Conference on Precision Mechanics and Mechatronics COMEFIM 6, Brasov, 10-12 oct. 2002, Publ. in The Romanian Review of Precision Mechanics, Optics and Mechatronics, Supplement 21b, vol. 4-21b; ISSN 1220-6830; pp. 25-30.
- CI-IV.42. **Barbu, D.M.** *Optical system using visual simulation OSLO*, Proceedings of the VI-th International Conference on Precision Mechanics and Mechatronics COMEFIM 6, Brasov, 10-12 oct. 2002, Publ. in The Romanian Review of Precision Mechanics, Optics and Mechatronics, Supplement 21b, vol. 4-21b; ISSN 1220-6830; pp. 31-36.
- CI-IV.43. **Barbu, D.M.** *Aspects of ocular biomechanical modeling*, Proceedings of the VI-th International Conference on Precision Mechanics and Mechatronics COMEFIM 6, Brasov, 10-12 oct. 2002, Publ. in The Romanian Review of Precision Mechanics, Optics and Mechatronics, Supplement 21b, vol. 4-21b; ISSN 1220-6830; pp. 37-42.
- CI-IV.44. **Barbu, D.M.**; Chiriacescu, S. *Model for analysis for the behavior of the human body to shocks and vibrations*, Proceedings of the VI-th International Conference on Precision Mechanics and Mechatronics COMEFIM 6, Brasov, 10-12 oct. 2002, Publ. in The Romanian Review of Precision Mechanics, Optics and Mechatronics, Supplement 21b, vol. 4-21b; ISSN 1220-6830; pp. 43-49.

- CI-IV.45. **Barbu, D.M.**; Barbu I. *Experimentat method for analysis for the behavior of the human body to shocks and vibrations*, Proceedings of the VI-th International Conference on Precision Mechanics and Mechatronics COMEFIM 6, Brasov, 10-12 oct. 2002, Publ. in The Romanian Review of Precision Mechanics, Optics and Mechatronics, Supplement 21b, vol. 4-21b; ISSN 1220-6830; pp. 51-54.
- CI-IV.46. Barbu I., **Barbu, D.M.** *CNC technologies in mechanical and mechatronics*, Proceedings of the VI-th International Conference on Precision Mechanics and Mechatronics COMEFIM 6, Brasov, 10-12 oct. 2002, Publ. in The Romanian Review of Precision Mechanics, Optics and Mechatronics, Supplement 20b, vol. 2-20b; ISSN 1220-6830; pp. 293-298.
- CI-IV.47. Barbu I., Luculescu M.C., **Barbu, D.M.** *Using modern biosensors in agriculture*, Proceedings of the VI-th International Conference on Precision Mechanics and Mechatronics COMEFIM 6, Brasov, 10-12 oct. 2002, Publ. in The Romanian Review of Precision Mechanics, Optics and Mechatronics, Supplement 21b, vol. 4-21b; ISSN 1220-6830; pp. 59-62,
- CI-IV.48. **Barbu, D.M.**; Chiriacescu, S. *Ocular Prosthesis and Orthosis*, Conference 2445 on International Symposium on Biomedical Optics (BIOS 2001), San Jose, California, USA, 20-26 ian. 2001, Proceedings of SPIE, vol. 4245, paper 4245-38, pp. 17.
- CI-IV.49. **Barbu, D.M.** *A Testing Apparatus for Cervical Load Simulation*, International Conference Modern Technologies, Quality, Restructuring, TMCR 2001, Chişinău, Moldova, 23-25 mai 2001, Published in the volume „Modern Technologies, Quality, Restructuring”, vol. 3; ISBN 9975-9638-2-X; pp. 244-247.
- CI-IV.50. **Barbu, D.M.**; Barbu, I. *A Binocular Vision System in Robotics. Part I. General presentation*, International Conference Modern Technologies, Quality, Restructuring, TMCR 2001, Chişinău, Moldova, 23-25 mai 2001, Published in the volume „Modern Technologies, Quality, Restructuring”, vol. 3; ISBN 9975-9638-2-X; pp. 248-251.
- CI-IV.51. **Barbu, D.M.**; Barbu, I. *A Binocular Vision System in Robotics. Part II. Implementation of Visual Behaviors*, International Conference Tehnologii Moderne – Calitate – Restructurare, TMCR 2001, Chişinău, Moldova, 23-25 mai 2001, Published in the volume „Modern Technologies, Quality, Restructuring”, vol. 3; ISBN 9975-9638-2-X; pp. 252-255.
- CI-IV.52. **Barbu, D.M.** *Optical Human Eye Model*, International Conference on Optics, Electro-Optics and Optoelectronics in Europe, EOS/SPIE European Biomedical Optics Week - EBIOS 2000, Amsterdam, Olanda, 4-6 iulie 2000, paper 4156-120.
- CI-IV.53. **Barbu, D.M.**; Barbu, I. *Example of use of the finite element method in the design of industrial robots shafts*, Proceedings of the XV National Symposium with international participation Robotics 2000, Oradea, 12-14 oct. 2000; Published in the volume "Robotics at the End of the Millennium", ISBN 973-8083-67-2; pp. 51-54.
- CI-IV.54. **Barbu, D.M.**; Barbu, I. *Biomechanical Application in Robotics Vision, Exemplu de utilizare a metodei elementului finit în proiectarea arborilor roboţilor industriali*, Proceedings of the XV National Symposium with international participation Robotics 2000, Oradea, 12-14 oct. 2000; Published in the volume "Robotics at the End of the Millennium", ISBN 973-8083-67-2; pp. 55-58.
- CI-IV.55. **Barbu, D.M.** *Introduction in Biomechanics of the Human Eye*, Conference 3926 on International Symposium on Biomedical Optics, BIOS 2000, San Jose California, USA, 22-28 ian. 2000, Proceedings of SPIE, vol. 3926, paper 3926-25, pp. 42.
- CI-IV.56. **Barbu, D.M.**; Barbu, I. *Methodology of Human FEM Model Development*, Proceedings of the VIII-th International Conference of Motor Vehicles (CAR2000), volumul A&SFRT, Piteşti, 16-17 nov. 2000; ISBN 973-8212-00-6; pp. 257-262.
- CI-IV.57. **Barbu D.M.** *Modeling tribological contact eye - eyelid*, International Conference on Material Strength REZMAT 99, Chişinău, Moldova, 1999;
- CI-IV.58. Olariu, V.; Cîrîc, D. (**Barbu, D.**) *On the global momentum of the Coriolis forces*, Oil and Gas Institute Bulletin, vol. XLV, Special Issue of the Symposium of Applied Mechanics, Ploieşti, 1993; ISSN 0376-4516; pp. 49-52.

OTHER PAPERS / RELEVANT ACHIEVEMENTS

G-D. National grants and projects won as director

G-D-1. **Exploratory research project PN-II-PCE, IDEAS program, code ID_147, contract no. 327 / 1.10.2007** - *Contributions to the analysis, modeling and simulation of mechatronic systems for modern medical recovery*; financier: UEFISCDI, CNCSIS.

G-D-2. **Grant AT Theme 1, Code 133, Contract 27 684 / 14.03.2005 and A1 / GR106 / 19.07.2006** - *Analysis, modeling and simulation of human body behavior in an environment polluted by shock and vibration with implications in ocular prosthetics and orthotics*; financier: CNCSIS.

G-D-3. **Grant A Theme 1, Code 423, Contract 33253 / 25.06.2003 and 33 369 / 29.06.2004** - *Contributions to analysis and modeling of visual function to prosthetics and orthotics*; financier: CNCSIS.

G-M. National grants and projects won as a team member

G-M-1. **CDI 5/5.1/ELI-RO (2016-2019)**, *Interaction chamber with integrated alignment system to a beam Gamma / propeller-GAMMA*; Director: Prof.dr.eng. Paul Borza

G-M-2. **PN-III-P2-2.1-BG-2016-0132 (2016-2018)**, *Improving mechatronic system multispectral technology to increase performance capture vegetative parameters in the context of climate change*; finanțator UEFISCDI; Director: Assoc.prof.dr.eng. Marius Luculescu

G-M-3. **PNII Capacități, Contract 114CP/I-14.09.2007 (2007-2010)** - *Base on multidisciplinary research management modeling, design and manufacture of mechatronic systems with applications in industry and medicine*; financier: MEC; Director: Prof.dr.eng. Luciana Cristea

G-M-4. **PNII Parteneriate 71-129 (2007-2010) – SMANAR** - *Mechatronic actuating systems made with new types of actuators for applications in robotics and other fields*; finanțator: MEC; Responsabil Proiect: Prof.dr.fiz. Sorin Constantin Zamfira

G-M-5. **Proiect CEEX 694 (2006-2008) – MERVI** - *Collaborative Virtual Reality Environment for preoperative planning in orthopedics*; financier: CNCSIS; Director: Prof.dr.eng. Doru Talabă

G-M-6. **Grant A, Cod 1058 (2007-2008)** - *Protection of the human body to shock and vibration*, financier: CNCSIS; Director: Prof.dr.eng. Ion Balcu

G-M-7. **Grant A, Cod 393 (2006-2008)** - *Models and systems for advanced human body vibration protection and prevention of occupational diseases*, financier: CNCSIS; Director: Prof.dr.eng. Simona Lache

G-M-8. **Grant AT, Cod 172 (2004-2005)** - *Analysis, manufacturing, modeling and ultrasonic nondestructive testing of structures of composite materials reinforced with particles in designing a concurrent engineering environment*, financier: CNCSIS; Director: Assoc.prof.dr.eng. Dana Luca Motoc

G-M-9. **Grant AT, Cod 424 (2003-2004)** - *Research on identifying dynamic process of improving the performance of structures in industrial materials*, financier: CNCSIS; Director: Prof.dr.eng. Simona Lache

G-M-10. **Grant A, Cod 525 (2001-2002)** - *Improving and structural modernization of automated dimensional inspection and quality assurance for retrofitting industrial production of bearings and fasteners*, finanțator: CNCSIS; Director: Prof.dr.eng. Luciana Cristea

G-M-11. **Grant AT, Cod 27/15T (2001-2002)** - *Theoretical and experimental research in the field of mechanical inertial*, financier: CNCSIS; Director: Prof.dr.eng. Angela Repanovici

G-M-12. **Grant AT, Cod 121 (2000-2001)** - *Optimization and retrofitting of automatic control systems for dimensional components assembled bearings*, financier: CNCSIS; Director: Prof.dr.eng. Luciana Cristea

G-M-13. **Grant AT, Cod 343 (1998-1999)**- *Improving machine control structure of conical rings for bearings*, financier: CNCSIS; Director: Prof.dr.eng. Luciana Cristea

Date, 20 March 2017

Author,
Assoc.prof.dr.eng. Barbu Daniela Mariana