



PERSONAL INFORMATION

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Technical University "Gheorghe Asachi" of Iasi, Mechanical Engineering Faculty,
Department of Mechanical Engineering, Mechatronics and Robotics (I.M.M.R.), 43 Prof.
Dimitrie Mangeron Blvd., Iași, 700050

WORKPLACE

PROFESSIONAL EXPERIENCE

- October 2022-present **Associate Emeritus Professor**, supervisor of doctoral students,
Technical University "Gheorghe Asachi" of Iasi, Mechanical Engineering Faculty, Department
of Mechanical Engineering, Mechatronics and Robotics (I.M.M.R.)
- October 1999-Sept.2022 **Professor**
Technical University "Gheorghe Asachi" of Iasi, Mechanical Engineering Faculty , Department
of Mechanical Engineering, Mechatronics and Robotics (I.M.M.R.)
- October 1993-October 1999 **Associate Professor**
Technical University "Gheorghe Asachi" of Iasi, Mechanical Engineering Faculty , Department
of Machine elements and Tribology (O.M.T.)
- October 1986-October 1999 **Lecturer**
Technical University "Gheorghe Asachi" of Iasi, Mechanical Engineering Faculty, Department
of Machine elements and Tribology (O.M.T.)
- February 1979- October 1986 **Assistant professor**
Technical University "Gheorghe Asachi" of Iasi, Mechanical Engineering Faculty, Department
of Machine elements and Tribology (O.M.T.)

EDUCATION AND TRAINING

- 2004 **DAAD RESEARCH SCHOLARSHIP (August-September)**
Research topic: TRIBOLOGY OF MECHATRONICS MICROSYSTEMS
HTW des Saarlandes, Saarbrücken, Germany
- 2001 **DAAD RESEARCH SCHOLARSHIP (July-September)**
Research topic: TRIBOLOGY OF LINEAR GUIDANCE SYSTEMS
HTW des Saarlandes, Saarbrücken, Germany
- 1994 **TRAINING COURSES (3 weeks)**
Topic: DESIGN FOR QUALITY
University of Bologna, Italy
- 1991 **Ph.D. in Mechanical engineering**
Scientific title of Doctor of Engineering in Mechanical Engineering (Machine elements and
Tribology). Ph.D.Thesis in the field of high speed ball bearings
- 1975 **Graduated with a degree in mechanical engineering (head of engineering promotion)**
Politechnique Institute "Gh. Asachi" Iași, Faculty of Mechanical Engineering.

1970-1975
1970

Student in the Mechanical Engineering Faculty, Politechnique Institute "Gh. Asachi" Iași,
Baccalaureate Diploma - National college "Nicu Gane" from Fălticeni, Suceava.

PERSONAL SKILLS

Native language Romanian language

Other known foreign languages	COMPREHENSION		SPEAKING		WRITING
	Listening	Reading	Conversation	Oral speech	
English	B1	B1	C1	C1	C1
French	C1	C2	C1	C2	C1

Levels: A1/A2: Elementary user - B1/B2: Independent user - C1/C2: Experienced user
[Common European Framework of Reference for Languages](#)

Communication skills

- good communication skills acquired through experience of teaching various subjects in over 40 years of professional experience.

Organizational/managerial skills

- Vice- dean in Mechanical Engineering Faculty (1997-2004) and (2016-2020);
- Responsible for ERASMUS programs from Mechanical Engineering Faculty (1999-2008);
- Head of Machine elements and Mechatronics Department from Mechanical Engineering Faculty (2008-2012);
- Head of the Mechanical Engineering, Mechatronics and Robotics Department from from Mechanical Engineering Faculty (2012-2016);
- Member in the Senate of Technical University "Gheorghe Asachi" (2008-2012) and (2016-2020);
- Member in the National commission for the evaluation of the doctoral thesis (CNATDCU), Section of Mechanical engineering (2007-2010) and (2016-2018);
- Member of the organizing committee of TRIBOTEHNICA, COMEFIM, ACME, ROTRIB, BALKANTRIB conferences etc.

Professional skills

- a good knowledge of teaching methods and verification of knowledge acquired by students

Skills in computer operation and programming

Processing information	Communication	SELF-ASSESSMENT			Solving problems
		Creating content	Security		
Experienced user	Experienced user	Experienced user	Experienced user	Experienced user	

Levels: Elementary user - Independent user - Experienced user

- - knowledge of working with computers (Internet, e-mail, Microsoft Office, Adobe editor)
- - programmer in the following MathCAD language.

- Fields of expertise
- Tribology (materials, lubricants, lubrication, friction and wear);
 - Biotribology;
 - Ball bearings, Rolling guidance systems, Balls screw;
 - Tribology of mechatronics microsystems;
 - Tribological testings.
- Other skills
- Practical experience in designing and building material and lubricant testing machines.

ADDITIONAL INFORMATION

Most important books:
(Co-author)

ROLLING BEARINGS-DESIGN AND TECHNOLOGY, Vol I and Vol II,
Technical Publishing House, Bucharest, 1985.
Coordinator Professor Mihai Gafițanu

Author

Awarded with the award of the Romanian Academy
FUNDAMENTALS OF LUBRICATION, "Gheorghe Asachi" Publishing House, Iași, 2002
TRIBOLOGY, ED.II, "Gheorghe Asachi" Publishing House, Iași, 2023

Most important published papers in international journals:

1. D.N.Olaru and M.D.Gafițanu: *Starvation in Ball Bearings*, Wear,170 (1993),219-234;
2. D.N.Olaru and M.D.Gafițanu: *Lubrication Safety in High-Speed Ball Bearings*, Lubrication Science, 9-4, August 1997, pp 365- 389;
3. D.N.Olaru and M.D.Gafițanu: *A New Methodology to Estimate Starvation in Ball Bearings*, Tribotest Journal,4-1,1997,p.93- 106;
4. M.D.Gafițanu, D.N.Olaru und M.C.Cocea: *Die Verluste Wegen Der Reibung In Radial-Axial – Kugellagern Bei Hohen Drehzahlen*, Wear, 160 (1993), 51-60;
5. Bercea,I., Cretu,Sp., Bercea,M. Olaru, D.N.; *Simulating Roller- Cage Pocket Friction in a Tapered Roller Bearing*, European Journal Mech.Engineering.vol.43, No.4,1998,p.189-194;
6. Bercea, M. Bercea, I. Olaru, D.,N., Nelias, D.: *Polyethylene as an Additive for Minearl Oils- Part I: Influence of the Polymer Concentration on the Film-Forming Properties in Rolling Bearings*, STLE - TRIBOLOGY TRANSACTIONS, Vol.42, 1999, 4, p.851-859;
7. Bercea, M., Bercea, I.,Nelias,D.,Olaru, D.N.; *The Tribological Behavior of Mineral Oils Additived with Polyethylene*, LUBRICATION SCIENCE, 11-3, May 1999 (11), p.247-270;
8. Gh. Manolache, Sp. Cretu, D.N.Olaru, C.G. Bujoreanu, *A study of thermal phenomena in the piston-ring and cylinder-sleeve tribosystem of an internal combustion engine and flash temperature calculation*, LUBRICATION SCIENCE, 12-2, Feb. 2000, p.115-131.
9. C.Oprisan, D.N.Olaru, D.Leohchi, *A New Method to Simulate the Elastic Interactions in the Tribosystems of a Multi-Bar Mechanism*, TRIBOTEST JOURNAL, 9-2, December 2002 (9), p.157-169.
10. Olaru, D.N; Stamate, C; Prisacaru, G. - *Rolling Friction in a MicroTribosystem*, TRIBOLOGY LETTERS, Volume: 35, Issue: 3, 2009, Pages: 205-210;
11. Dumitru N. Olaru, Ciprian Stamate, Alina Dumitrascu, Gheorghe Prisacaru - *New microtribometer for rolling friction*,WEAR, Volume 271, Issues 5–6, 22 June 2011, Pages 842-852
12. V. Cârlescu, D. Olaru, F. Breabăn, Gh. Prisăcaru - *Comparative study of electromechanical response in some dielectric elastomers*, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, Vol.13, 2011.
13. Iuliana Rotaru, Carmen Bujoreanu, Adrian Bele, Maria Cazacu, Dumitru Olaru, *Experimental testing on free vibration behaviour for silicone rubbers proposed within lumbar disc prosthesis*, Materials Science and Engineering: C, Volume 42, September (2014), Pages 192-198.
14. Mihaela Rodica D. Bălan, Vasile Ciprian Stamate, Luc Houpert, Dumitru N. Olaru, *The influence of the lubricant viscosity on the rolling friction torque*,TRIBOLOGY INTERNATIONAL 72 (2014) 1–12;
15. Rotaru Iuliana, Olaru Dumitru, *Mechanical behaviour of p (HEMA)hydrogel for disc prosthesis on lumbar spine*, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, 2014, Vol. 16, No. 7-8, pp. 881 – 886.
16. Dumitru N. Olaru,Mihaela Rodica D. Bălan, Ana Tufescu,Vlad Cârlescu,Gheorghe Prisacaru, *Influence of the cage on the friction torque in low loaded thrust ball bearings operating in lubricated conditions*, TRIBOLOGY INTERNATIONAL, Volume 107, March 2017, Pages 294–305,(Online 11,2016),<http://www.sciencedirect.com/science/article/pii/S0301679X16304704>.
17. Vlad Cârlescu, Dumitru N. Olaru, Gheorghe Prisacaru, Cezar Oprisan and José Machado, *Sensors and Actuators on Determining Parameters for Being Considered in Selection of Elastomers for Biomimetic Hands*, SENSORS, (2017), Jun: 17(6): 1190. Published online 2017 May 23. doi: [10.3390/s17061190](https://doi.org/10.3390/s17061190), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5490689/>

18. Andrei Popescu, Luc Houpert, Dumitru N Olaru, *Four approaches for calculating power losses in an angular contact ball bearing*, MECHANISM AND MACHINE THEORY, (2020), vol.144, February 2020, articol nr. 103669.

<https://www.sciencedirect.com/science/article/abs/pii/S0094114X19312029>

Publications

Author or co-author of 11 textbooks, tutorials and books published in CNCSIS-recognized publishers or on internet and co-author of two book chapters (Springer Nature, 2019; Intechopen, 2020).

A total of more than 100 scientific papers published or presented at international scientific events or meetings at home and abroad, out of which on 70 of the papers as sole author, first author or corresponding author.

-56 IDB papers, including 28 ISI Web of Knowledge (WoK) indexed papers, of which 11 papers published in ISI publications with impact figures above 1.5, most of them from the last 3 years: one as first author (Smart Materials and Structures, 2018, IF=3.613), seven papers as corresponding author (Symmetry 2023, Lubricants 2023, Forests 2022, IF=2.634, Coatings 2020, IF=2.43; Metals 2020 and Metals 2021, IF=2.117, Materials 2021, IF=3.6), 3 as co-author on position 2 out of 6 (Tribology International, 2019, IF=4.271 and Journal of Cleaner Production, 2020, IF=7.246), Journal of Materials Engineering and Performance, 2021, IF=1.652 and one in Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 2020, IF=1.397), as well as older papers (first author: Lubrication Science, 2005, IF= 1.812; co-author: Tribology Transactions, 2008, IF=1.511 and Lubrication Science, 2004, IF=1.812).

- Sole author, first author or corresponding author on 41 out of 56 BDI papers; 38 out of 56 BDI papers published after 2009.

Citations

- over 300 citations in WoS journals (128 citations), BDI and Ph.D. theses (citations in ISI - WOS journals with high impact factor, sum of citation impact factors exceeding the number of citations).

Participation at most important Tribological International Conferences:

Int. Colloquium of Tribology, Esslingen, Germany, 1996, 1998, 2000, 2004, 2004,
Int. Conferences of Tribology: BALKANTRIB'20-Belgrad, ROTRIB'2019-Cluj Napoca, BALKANTRIB 2014-Sinaia, ROTRIB 2010-IASI, ROTRIB 2007-București, ROTRIB 2003 Galați, BALKANTRIB 1999 Sinaia, NORDTRIB 1994-Uppsala, EUROTRIB 1993 Budapesta

Other publications:

Over 120 papers published in International Proceedings of the conferences (50 are WOS indexed).

Two invention patents;

655 citations in Google Scholar with h-index = 13

329 citations in SCOPUS with h-index =10

ERASMUS programs:

HTW des Saarlandes, Saarbrücken, Germany (1999-2004); INSA Lyon France (1999, 2000); Twente University (2008);

TEMPUS programs:

University of Sevilla, Spain (april 2000); University of Toulouse, France (1999).

Member in professional associations

Member of the Romanian Association of Tribology (ART)..

Member of the professional associations Romanian Mechatronics Society – SROMECA

Activity as a reviewer for WoS-listed journals

Reviewer for WOS journals: Tribology International, Sensors, Lubricants, Mechanism and Machine Theory

Date:

30.10.2023

Signature:



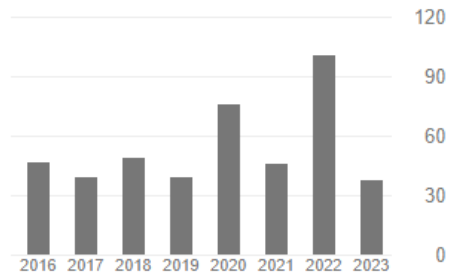
Dumitru Olaru ✎

URMĂRIȚI

Technical University "Gheorghe Asachi" Iasi
 Adresă de e-mail confirmată pe mail.tuiasi.ro
 Mechanical Engineering Tribology Mechatronics

Citat de AFIȘAȚI-LE PE TOATE

	Toate	Din 2018
Referințe bibliografice	655	349
h-index	13	9
i10-index	15	9



Coautori EDITAȚI

Nu există coautori

TITLU	CITAT DE	ANUL
<input type="checkbox"/> A new model to estimate friction torque in a ball screw system D Olaru, GC Puiu, LC Balan, V Puiu Product engineering: eco-design, technologies and green energy, 333-346	78	2005
<input type="checkbox"/> The influence of the lubricant viscosity on the rolling friction torque MRD Bălan, VC Stamate, L Houpert, DN Olaru Tribology International 72, 1-12	60	2014
<input type="checkbox"/> Starvation in ball bearings DN Olaru, MD Gafitanu Wear 170 (2), 219-234	36	1993
<input type="checkbox"/> New micro tribometer for rolling friction DN Olaru, C Stamate, A Dumitrascu, G Prisacaru Wear 271 (5-6), 842-852	33	2011
<input type="checkbox"/> Influence of the cage on the friction torque in low loaded thrust ball bearings operating in lubricated conditions DN Olaru, MRD Bălan, A Tufescu, V Cârlescu, G Prisacaru Tribology International 107, 294-305	29	2017
<input type="checkbox"/> Rolling friction torque in ball-race contacts operating in mixed lubrication conditions MRD Bălan, L Houpert, A Tufescu, DN Olaru Lubricants 3 (2), 222-243	29	2015



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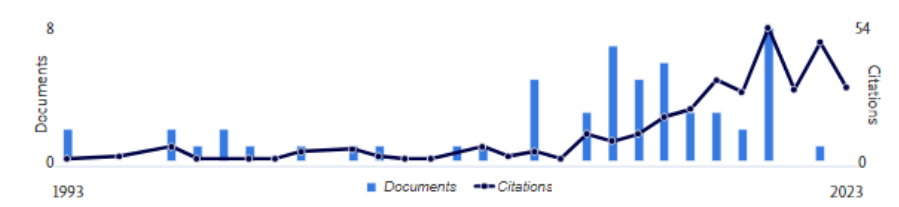
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