

Dorin-Ştefan Demian Curriculum Vitae

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h-index = 3 (ISI Web of Science)



EDUCATION:

- * **Ph.D. in Engineering Sciences** (12.05.2003), *Politehnica Univ. of Timisoara* (Romania), Thesis title: "Research on productive capacity and specific energy consumption during processing of stamping presses crank," *Cum laude*; **Supervisor** Prof. Stefan Rosinger; 1994-2002;
- * **Diploma Engineer** (equivalent to **M.Sc.**) in **Mechanical Engineering**; major in Manufacturing Engineering for Machines, *Politehnica Univ. of Timisoara* (Romania); 1978-1983;
- * Military Service: Sept. 1977 – June 1978;
- * *Moise Nicoara National College for Mathematics and Physics*, Arad (Romania), 1973-1977.

SOCIAL STATUS

Born: August 20, 1958 in Arad, Arad County, Romania;
Married: since 1982; two children.

LANGUAGES

- * **Romanian**: native;
- * **English**: beginner; **French**: good; **Hungarian**: medium;

TEACHING & RESEARCH (22 years of experience):

Design of cutting tools; Technologies and processing by cold plastic deformation for metals; Quality and quality assurance.

POSITIONS

- * **Visiting Research Associate**, July 1, 2011 - Dec. 31, 2014, at the School of Physical Sciences, *University of Kent at Canterbury*, Host: Prof. Adrian Gh. Podoleanu (UK);
- * **Lecturer**, 1993 - Present, Dept. of General Technical Subjects, Faculty of Engineering, *Aurel Vlaicu Univ. of Arad* (Romania);
- * **Design engineer**, 1985-1994, Dept. Development new products of the ARIS company in Arad - Designing new products, Machines tools on the topic (Romania);
- * **Production engineer**, 1983 – 1985, Assembly department for heavy lathes, of the ARIS company in Arad (Romania).

OTHER POSITIONS

- * **Specialist consultant**, 2005-2012, individual contract with S.C. PRO DESIGN TECH SRL, Arad (Romania).
- * **Specialist consultant and Project Manager**, 2001-2002 & 2003-2005, individual contract with S.C. IND TEHNOLOGIC ROBAC SERVICE SRL, Lipova (Romania).
- * **Specialist consultant**, 1999-2001, Convention, with the S.C. SALTEX Maşini F&J SA in Arad.

SCIENTIFIC PAPERS (*h-index: 3 in ISI Web of Science*) <http://www.researcherid.com/rid/H-4111-2016>

30 published papers;

3 ISI peer-reviewed journals with impact factor (IF); 7 in ISI conference proceedings.

5 Romanian patent awarded and 1 applications pending.

<https://www.scopus.com/authid/detail.uri?authorId=41361163900>

<https://scholar.google.com/citations?user=VXUj7mwAAAAJ&hl=ro>

CITATIONS (May. 2016): 30 on ISI Web of Science; 38 on Google Scholar (excluding self-citations).

AFFILIATIONS

- * **SPIE –Member** since 2013 (International Society for Optical Engineering)
- * **AGIR** (The General Association of Engineers in Romania) – since 2009;
- * Since **2013**, member, **Arad Branch of the SRR** (Romanian Robotics Society)

RESEARCH GRANTS & CONTRACTS

1. **Member, PARTNERSHIP Grant** PN-II-PT-PCCA-2011-3.2-1682, Romanian National Authority for Scientific Research (ANCS-UEFISCDI): *Optical Coherence Tomography (OCT) systems with handheld and endoscope probes for real-time investigations in material studies and for in vivo medical imaging* - five institutions involved, **2012-2016**; <http://3om-group-optomechatronics.ro/>

List of Publications

Papers in Journals indexed in Web of Science (IF 4.36)

3. Duma V.-F.*, Dobre G., **Demian D.**, Cernat R., Sinescu C., Topala F. I., Negrutiu M. L., Hutiu Gh., Bradu A., and Podoleanu A. Gh., Handheld scanning probes for optical coherence tomography, *Romanian Reports in Physics* **67**(4), 1346-1358 (2015); ISSN 1221-1451; **ISI IF 1.517/2014 (RIS 0.483/2014)**; http://www.rpp.infim.ro/2015_67_4/A14.pdf; **OPEN ACCESS**

2. Hutiu Gh., Duma V.-F.*, **Demian D.**, Bradu A., and Podoleanu A. Gh., Surface imaging of metallic material fractures using optical coherence tomography, *Applied Optics* **53**(26), 5912-5916 (2014), ISSN 1559-128X; **ISI IF 1.784/2014 (RIS 1.212/2014)**; <http://dx.doi.org/10.1364/AO.53.005912> - also selected & published in *Virtual Journal for Biomedical Optics* **9**(11), ISSN 1931-1532 (2014); **OPEN ACCESS**

1. **Demian D.**, Duma V.-F.*, Sinescu C., Negrutiu M. L., Cernat R., Topala F. I., Hutiu Gh., Bradu A., and Podoleanu A. Gh., Design and testing of prototype handheld scanning probes for optical coherence tomography, *Proc. of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine* **228**(8), 743-753 (2014); ISSN 0954-4119; **ISI IF 1.329/2014 (RIS 0.792/2014)**; <http://dx.doi.org/10.1177/0954411914543963>;^{1,2} **OPEN ACCESS**

Patents – Invention Disclosure Forms

P2. Duma V.-F., **Demian D.**, Optical modulator, has solid rotating shaft with some through slots of well-defined profiles, Romanian Patent number RO129610-A0, Derwent Primary Accession Number: **2014-P50842**;

P1. Duma V.-F., **Demian D.**, Optical modulator with a rotational disk, Romanian Patent Request, OSIM, A01083/28.10.2011 (pending);

Other patents (during the ARIS period)

Patent Certificate Nr. Miet-CIMU 1108 of 08.11.1986 entitled "Universal electric device for cold bending pipes"

Patent Certificate Nr. 852 of 01.06.1987 Miet-CIMU titled "Pipe fixture standardized products MFTF 9 5/8" - 13 3/8",

Patent Certificate Nr. 420 of 30.03.1989 Miet-CIMU titled "Double action release system for deep drilling machines"

Certificate Nr. 165 of 24.08.1993 issued by the Department Inventions, Marks SC Aris SRL Arad (Innovation - file 51/89 Miete-CIMU-IMUA) titled "Constructive solution for buffering longitudinal precision lathes SN 402-502"

Books Contributions and Chapters

Duma V.-F.*, Nicolov M. F., Kiss M., Ilca T., Mnerie C., **Demian D.** and Szantho L., Choppers: Optomechatronic Devices for the Controlled Modulation of Light, in *Mechanisms, Transmissions and Applications*, Mechanisms and Machine Science, Vol. 3, 129-134, Lovasz E.C., Corves B., Eds., ISSN 2211-0984, ISBN 978-94-007-2726-7, Springer **2011**, <http://dx.doi.org/10.1007/978-94-007-2727-4>;

Conference Proceedings Papers - indexed in ISI Web of Science

ISI.C7. Duma V.-F.*, **Demian D.**, Sinescu C., Negrutiu M. L., Cernat R., Topala F. I., Hutiu Gh., Bradu A., Podoleanu A. Gh., Handheld scanning probes for OCT: Developments, applications and perspectives, *Proc. SPIE*, Vol. 9670, 96700V, Todea C., Podoleanu A., Duma V.-F., Eds., *5th World Federation of Lasers in*

¹ Highlighted in OCT News - Feature of the Week 10/5/14: <http://www.octnews.org/articles/5612435/feature-of-the-week-10-5-14-design-and-testing-of/>

² From top downloaded papers of *J of Eng in Medicine* (SAGE), Oct. 2014 to Jan. 2015.

Dentistry - European Division (WFLD-ED) & 6th Intl Conference Lasers in Medicine (ICLM, May 7-9, 2015), ISSN 1605-7422, Bucharest (Romania), **2016** - Invited Paper; doi: [10.1117/12.2178590](https://doi.org/10.1117/12.2178590)

ISIC6. Duma V.-F.*, **Demian D.**, Dobre G. M., Sinescu C., Cernat R. C., Negrutiu M. L., Hutiu Gh., Bradu A., Rolland J. P., Podoleanu A. Gh., Constructive solutions of handheld probes with galvanometer scanners for biomedical and industrial imaging. Applications in OCT, *Proc. SPIE*, Vol. 9633, 96330Q, Mazuray L., Wartmann R., Wood A. P., Eds., *SPIE OptiFab (Optical Design and Engineering VI)*, ISSN 0277-786X, Rochester, NY (USA), Oct. 12-15, **2015**; doi: 10.1117/12.2195839

ISIC5. Duma V.-F.*, Dobre G. M., **Demian D.**, Cernat R. C., Sinescu C., Topala F. I., Negrutiu M. L., Hutiu Gh., Bradu A., Rolland J. P., and Podoleanu A. Gh., Handheld probes and galvanometer scanning for optical coherence tomography, *Proc. SPIE*, Vol. 9626, 9626-50, Mazuray L., Wartmann R., Wood A. P., Eds., *SPIE Optical Design (Optical Design and Engineering VI)*, ISSN 0277-786X, Jena (Germany), Sept. 7-10, **2015**; doi: [10.1117/12.2191130](https://doi.org/10.1117/12.2191130)

ISIC4. Duma V.-F.*, Schitea A., Tuef M., Cira O., Hutiu Gh., **Demian D.**, Mnerie C., Kaposta I., Optomechatronics applications of the theory of mechanisms with active student involvement in research, *New Trends in Educational Activity in the Field of Mechanism and Machine Theory (ISEMMS, Madrid 2013)*, Mechanisms and Machine Science (Book Series), vol. 19, 111-119, García-Prada J. C., Castejon C., Eds., ISSN 2211-0984, ISBN 978-3-319-01835-5, Springer **2014**, http://dx.doi.org/10.1007/978-3-319-01836-2_12;

ISIC3. Duma V.-F.*, **Demian D.**, Cira O., Optical choppers with high speed rotating elements, *Proc. SPIE*, Vol. 9131, 9131OE, [Wyrowski F.](#), [Sheridan J.T.](#), [Tervo J.](#), [Meuret Z.](#), Eds., *Optical Modelling and Design III*

ISIC2. Duma V.-F.*, Hutiu G., Cira O., **Demian D.**, Mnerie C., Kaposta I., Building an Optomechatronics Group in a young university in Western Romania, *Proc. SPIE*, Vol. 9289, 928913, Manuel Filipe P. C. Martins Costa, Mourad Zghal, Eds., *12th Education and Training in Optics and Photonics (ETOP July 22-26, 2013)*, ISSN 0277-786X, Porto (Portugal), **2014**, <http://dx.doi.org/10.1117/12.2070774>;

ISIC1. Duma V.-F.*, Negrutiu M. L.*, Sinescu C., Miutescu E.*, Burlea A., Vlascici M.*, Negru C., Gheorghiu N.*, **Demian D.**, Hutiu G., Mnerie C., Marcauteanu C., Topala F., Rolland J., Voiculescu I., and Podoleanu A. Gh.*, Towards a Research Pole in Photonics in Western Romania, *Proc. SPIE*, Vol. 9289, 928916, Manuel Filipe P. C. Martins Costa, Mourad Zghal, Eds., *12th Education and Training in Optics and Photonics (ETOP July 22-26, 2013)*, ISSN 0277-786X, Porto (Portugal), **2014**, <http://dx.doi.org/10.1117/12.2070787>

Papers in Peer-reviewed Journals (indexed in International Data Bases)

J2. Mnerie C., Kiss M., Ilca T., Szantho L., Falcan O., Nicolov M. F., **Demian D.**, Voiculescu I., Duma V.F.*, Study of optical modulators with rotating wheels: The experimental setup, *Sc. Bulletin of the Politehnica Univ. of Timisoara, Transactions on Mathematics-Physics* 56(70), 73-80, **2011**, ISSN 1224-6069;

J1. Szantho L., Mnerie C., Ilca T., Falcan O., Nicolov M. F., **Demian D.**, Duma V.F.*, Radiometric scanning with applications in the lighting technology, *Sc. Bulletin of the Politehnica Univ. of Timisoara, Transactions on Mathematics-Physics* 56(70), 89-97, **2011**, ISSN 1224-6069;

Papers in Conference Proceedings (not indexed in ISI Web of Science)

C2. **Demian D.***, Hutiu Gh., Duma V.-F.*, Development of handheld scanning probes for optical coherence tomography, *Proc. 4th ISREIE (Aurel Vlaicu Univ. of Arad Symposium), Series: Engineering*, 85-90, Nov. 8-9, 2012, ISSN 2065-2569;

C1. Kiss M., Ilca T., Szantho L., Mnerie C., Falcan O., **Demian D.**, Nicolov M. F., Duma V.-F.*, Experimental setup for the study of optical modulators with rotating wheels, *Proc. 3rd ISREIE, Series: Engineering*, 98-104, Oct. 10-12, 2010, ISSN 2065-2569;

Oral Presentations and Posters (with Published Abstracts, without Proceeding Papers)

Duma V.-F.*, **Demian D.**, Hutiu Gh., Sinescu C., Topala F., Negrutiu M. L., Dobre G., Bradu A., Podoleanu A. Gh., Biomedical imaging using Optical Coherence Tomography. Devices, systems, and applications, *BioRemed International Conference, Oradea (Romania)*, Sept. 19, **2015** <http://bioremed2015.srb.ro/7/programme> (Invited Lecture);

Papers in Other Peer-reviewed Journals (in Romanian)

- J16. **Demian D.***, Silvasan D., Considerations on the mechanical power consumption at dies with different lengths (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, **2002**, ISSN 1582-3393, pp. 207-214;
- J15. **Demian D.***, Silvasan D., Method of calculus of the k_i and k_d coefficients for stamping (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, **2002**, ISSN 1582-3393, pp. 215-220;
- J14. **Demian D.**, Silvasan D.*, Analysis of the specific consumption of electric power at stamping manufacturing on the PAI-16 press with modified characteristics (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, **2002**, ISSN 1582-3393, pp. 221-228;
- J13. **Demian D.**, Silvasan D.*, Experimental results obtained at the leveling through plastic deformation by rolling of cylindrical surfaces - Part 1 (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, **2002**, ISSN 1582-3393, pp. 286-291;
- J12. **Demian D.**, Silvasan D.*, Experimental results obtained at the leveling through plastic deformation by rolling of cylindrical surfaces - Part 1 (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, **2002**, ISSN 1582-3393, pp. 292-297;
- J11. Silvasan D.*, **Demian D.**, Rosinger S., On the forces that appear at leveling with spheres of exterior cylindrical surfaces (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, **2000**, ISSN 1582-3393, pp. 348-352;
- J10. Silvasan D.*, **Demian D.**, Rosinger S., On the leveling of exterior cylindrical surfaces processed with plastic deformation with rolls (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, **2000**, ISSN 1582-3393, pp. 343-347;
- J9. **Demian D.***, Rosinger Stefan, Silvasan Dorel, Modifying of dies with eccentric type PAI-16 for improving of several technical and economic parameters (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, **2000**, ISSN 1582-3393, pp. 248-252;
- J8. **Demian D.***, Silvasan Dorel, Testing of cc motors for advance at manufacatuirng machines with numerical control by computer modeling (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, **2000**, ISSN 1582-3393, pp. 242-247;
- J7. **Demian D.***, Silvasan D., Analysis of the loading of equipments to determine the energetic compsumption at processing on dies with eccentric (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, Vol. II, Oct. 30-31, **1997**, ISBN 973-98365-0-X; ISBN 973-98366-2-3, pp. 211-216;
- J6. **Demian D.***, Silvasan D., Testing of the sub-assemblies of dies with eccentric with modified characteristics (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, Vol. II, Oct. 30-31, **1997**, ISBN 973-98365-0-X; ISBN 973-98366-2-3, pp. 217-222;
- J5. **Demian D.**, Micsa I., Silvasan D.*, Method of adjusting of the plates of mills with mounted teeth (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, Vol. II, Oct. 30-31, **1997**, ISBN 973-98365-0-X; ISBN 973-98366-2-3, pp. 223-226;
- J4. **Demian D.**, Micsa I., Silvasan D.*, Devices for interior spherical turning (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Series: Mech. Eng.*, Vol. II, Oct. 30-31, **1997**, ISBN 973-98365-0-X; ISBN 973-98366-2-3, pp. 227-232;
- J3. **Demian D.**, Experimental ascertainment of the energetic consumption at stamping (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Vol. III, Series: Mech. Eng.*, May 16-17, **1996**, ISBN 973-98365-0-X; ISBN 973-98366-2-3, pp. 135-139;
- J2. **Demian D.***, Rosinger Stefan, Mathematical modeling for the theoretical ascertainment of the actual cutting force on dies with active elements with parallel edges (in Romanian), *Annals of the Aurel Vlaicu Univ. of Arad, Vol. III, Series: Mech. Eng.*, May 16-17, **1996**, ISBN 973-97708-0-0, pp. 129-135;
- J1. **Demian D.**, Testing of the sub-assemblies of eccentric PAI-16 dies with modified characteristics (in Romanian), *8th International Conference of Management and Technological Engineering - TEHNO*, Vol.2, Timisoara **1998**; ISBN: 973-0-00596-6; ISBN: 973-0-00607-5, pp. 27-32;