

## Lista Lucrări - Dr. ing. Aurelian Marcu -

### Books:

1. Mihai Stafe, Aurelian Marcu, Nicolae N. Puscas, "Pulsed Laser Ablation of Solids", Springer Series in Surface Science **53**, Springer-Verlag Berlin Heidelberg ISBN 978-3-642-40977-6, (2014)

### Book Chapters:

1. R. Vladoiu, C. Porosnicu, A. Mandes, I. Jepu, V. Dinca, A. Marcu, M. Lungu, G. Prodan, L. Avotina, chapter: "DLC Thin Films and Carbon Nanocomposites Growth by Thermionic Vacuum Arc (TVA) Technology", in the book: "Diamond and Carbon Composites and Nanocomposites", INTECH, ISBN 978-953-51-2453-5, (2016)

2. A. Marcu, C. Viespe, *Nanostructures Fabricated by Laser Techniques for Sensors Applications*, Book title: „Science and applications of tailored nanostructures”, ISBN 978-1-910086-18-6, Editor Prof. Paolo Di Sia, One Central Press, Str. Northampton road, Manchester M40 5BP, UK (OCP), (2016) pag. 29-38, (Ebook:ISBN-978-1-910086-19-3, HardBook: ISBN -978-1-910086-18-6)

### International Review

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2 A.Marcu, C.Grigoriu and K.Yatsui, "Particles Interaction with Obstacles in Pulsed Laser Deposition", Applied Surface Science, Vol **248** (2005), pp. 466-469.

3. A.Marcu, C.Grigoriu and K.Yatsui, "Particles Movement and Surface Quality in PLD/PR systems", Applied Surface Science, Vol **252** (2006), pp. 4733

4. A.Marcu, T.Yanagida, K.Nagashima, H.Tanaka and T.Kawai, "Transport Properties of ZnFe<sub>2</sub>O<sub>4</sub> Thin Films", Jurnal of Applied Physics, **102**,(2007) pp. 023713

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9. A.Marcu, T.Yanagida and T.Kawai, "Nanochannels Fabrication using Kikendal Effect", *Solid State Science* **12** pp.978-981 (2010), online in *Solid State Science* (2009) , <http://dx.doi.org/10.1016/j.solidstatesciences.2009.04.034>
10. A. Marcu, C. M. Ticoș, C. Grigoriu, I. Jepu, C. Porosnicu, A. M. Lungu, C. P. Lungu, "Simultaneous Cs Carbon and Tungsten Thin Film Deposition Using Two Thermionic Vacuum Arcs", *Thin Solid Films* **519** pp.4074-4077 (2011).
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- 14 C.P.Lungu, A.Marcu, C.Porosnicu, I.Jepu and J.Kovac, "Carbon-Tungsten Thin-Film Deposition by a Dual Thermionic Vacuum Arc", *IEE Trans. on Plasma Sci.*, **40** (2012), pp. 3546-3551
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25 Liga Avotina, Mihail Lungu, Paul Dinca, Bogdan Butoi, Gabriel Cojocaru, Razvan Ungureanu, Aurelian Marcu\*, Catalin Luculescu, Claudiu Hapenciuc, Paul C. Ganea, Aleksandrs Petjukevics, Cristian P. Lungu, Gunta Kizane, C.M.Ticos and Stefan Antohe, “Irradiation of nuclear materials with laser-plasma filaments produced in air and deuterium by terrawatt (TW) laser pulses”, Journal of Physics D: Applied Physics 51 (2018), pp. 025302

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## Romanian Review

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- 7 M. Lungu, I. Tiseanu, C. Porosnicu, C. Dobrea, I. Jepu, P. Dinca, A. Marcu, C. P. Lungu, “Tribological Investigations on Laser Irradiated Composite Thin Films Prepared by TVA Technique”, Digest Journal of Nanomaterials and Biostructures, **11** (2016), pp. 401 – 410
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## Preprints

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## Proceedings

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### **Invited Lectures**

1 Investigations on Graphyte-Diamond Transition by High Power Femtosecond Laser Irradiation, "Latvijas Universitate", Riga, Letonia, June 29<sup>th</sup> 2013

### **International Conferences**

#### **Invited**

1 A. Marcu, L. Trupina, T. Yanagida, C. P. Lungu and T. Kawai, „ZnO Nanostructure Alignment on Alumina Surface by Carbon Seeding”, „Materials 2015”, June 16-20, 2015, Zakynthos, Greece.

2 A.Marcu, C. Diplasu, L.Ionel, G. Giulbega, A.Groza, M.Ganciu, B.Mihalcea, 2nd International Conference on: Applied Physics, System Science and Computers, Dubrovnik, Croatia, September 27-29, 2017, A. Achim, R. Ungureanu, G. Cojocar, M.Serbanescu."Electromagnetic Waves Generation by High-Power Laser Interactions with Thin Metallic Films" , APSAC 2017, Dubrovnik, Croatia, September 27-29 2017

3 Elena Ionita, Aurelian Marcu, Mihai Serbanescu, Razvan Ungureanu, Gabriel Cojocar, Georgiana Giulbega, Constantin Diplasu, Alexandru Achim, Bogdan Mihalcea, Andreea Groza, and Mihai Ciubotaru, "The effect of high intensity pulsed electromagnetic fields on V(D)J gene recombination of developing pre B lymphocytes", APSAC 2017, Dubrovnik, Croatia, September 27-29 2017

4 A. Marcu, Cristian Viespe, "Vapour-Liquid-Solid Nanowire Grow Using Laser Techniques", The 6th Global Conference on Materials Science and Engineering (CMSE 2017) October 24th - 27th, 2017, Beijing, China

5 A. Marcu, M. Ciubotaru, R.Ungureanu, A.Groza, B.Mihalcea, A. Achim, Elena Ionita, M.Serbanescu, C. Diplasu, G. Giulbega "Side Effects from Laser Generation of Plasma", ECEM 2018, Malta June 21-25 2018

6 M. Barbuta<sup>1</sup>, A. Marcu<sup>2\*</sup>, R.Ungureanu<sup>2</sup>, A. Achim<sup>2</sup>, M.Serbanescu, "Predictive Real-Time 3D Laser Targeting System", 5<sup>th</sup> International Conference on Mathematics and Computers in Sciences and Industry - MCSI 2018, Corfu, Grecia, August 25-27, 2018.

7. A. Marcu, "Nanowires Grow using Special Laser Techniques", The 7th Global Conference on Materials Science and Engineering, CMSE 2018, Xi'an, China, Nov 1-4, 2018,

8. A. Marcu, R. Mihalcea, A. Stancalie, C. Viespe, and N. Ionut, "Oxide Nanostructure Growing for Sensors Applications", 6<sup>th</sup> Biennial International Conference on Emerging Trends in Engineering Science and Technology - ICTEST2020, Thrissur, India. 17-19, 2020

## Presentations

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2 C. Grigoriu, D. Dragulinescu, A. Marcu, L. Tobos "*Simplified approach to modelling of KrF laser active medium*", GCL +94 , Tenth Symposium on Gas Flow and Chemical Lasers, Friedrichshafen, Germany, September 1994.

3 T.Yukawa, A.Marcu, M.Ikarashi, K.Masugata, C.Grigoriu and K.Yatsui, "*Evaluation of characteristics of laser ablation plasma*", The 57th Autumn Meeting of the Japan Society of Applied Physics, Fukuoka, Japan, September 7-10, 1996

4 A.Marcu, D.Miu, C.Grigoriu, T.Yukawa, X.Wang, W.Jiang, K.Masugata and K.Yatsui, "*Study on behavior of YBCO plumes obtained by pulsed laser evaporation*", The 57th Autumn Meeting of the Japan Society of Applied Physics, Fukuoka, September 7, 1996.

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D. Miu, "Synthesis of nanosize powders by pulsed laser ablation and related plasma diagnostics", The 5-th Conference in Optics ROMOPTO'97, Bucharest, Romania, September 9-12, 1997.

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18 A.Marcu, C.Grigoriu and K.Yatsui, "Simulation of Ablation Plume Behaviour in a Pulsed Laser Deposition System", The 12<sup>th</sup> Plasma Physics and Applications Conference, Iasi, Sept 1 - 3, 2003.

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20 A.Marcu C.Grigoriu and K.Yatsui, "Ablation Plume Interaction with Obstacles in a Pulsed Laser Deposition System", COLA '03, CRETE, Greece, October 5 –10, 2003.

21 A.Marcu C.Grigoriu and K.Yatsui, "Particles Interaction with obstacles in a Pulsed Laser Deposition", 4<sup>th</sup> I.C.P.E.P.A., Lecce, Italy, September 5-9, 2004.

22 A.Marcu C.Grigoriu and K.Yatsui, "Ablated Particles Movement in a Pulsed Laser Deposition System", EMRS-2004 Fall Meeting, September 6-10, 2004, Warsaw, POLAND.

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25 A.Marcu, T.Yanagida, K.Nagashima, H.Tanaka and T.Kawai, “ Transport Properties of ZnFe<sub>2</sub>O<sub>4</sub> Thin Films”, 5<sup>th</sup> 21<sup>th</sup> Century COE, December 8-9 2006, Awaji, JAPAN.

27 Yanagida, T., K.Nagashima, A.Marcu, K.Oka, H.Tanaka and T.Kawai, Nanowire Heterostructures of Transition Metal Oxides, 14th International Workshop on Oxide Electronics, Jeju Island, Korea, October 7-10 (2007)

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30 A.Marcu, M.Goyat, T.Yanagida and T.Kawai, “Nanowire Morphology Control in Pulsed Laser Deposition”, 2-nd INDLAS International Conference, Modern Laser Applications, Bran, Romania 20-23 May (2008)

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32 A.Marcu, T.Yanagida and T.Kawai, “Iron Oxide Shell Layer Morphology in PLD”, European Material Research Society, Spring Meeting, Strasbourg, France, 8<sup>th</sup> -12<sup>th</sup> June (2009)

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#### **Granted Patents:**

1. M.Ganciu-Petcu, O.S. Stoican, A.L.Groza, N.Pavel, G.Croitoru, A.Marcu, “Sistem combinat Electric-Laser pentru controlul descarcarilor electrice”, 133688 / 27/11/2020

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1. Lungu Petrica Cristian, Porosnicu Corneliu, Jepu Ionut, Lungu Mihail, Banici Romeo, Marcu Aurelian, Luculescu Catali, Ursescu Daniel / ‘High power laser irradiation TW/PW’ / EP 16464009 – 14,10,2016

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1. Lungu Petrica Cristian, Porosnicu Corneliu, Jepu Ionut, Lungu Mihail, Banici Romeo, Marcu Aurelian, Luculescu Catali, Ursescu Daniel / Iradierii cu laseri de putere TW/PW / A00698 (2016)

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### **Prizes**

1. Silver medal for “Procedure for the Detection of Gases in Real Time Based on Fourier Analysis”, by N.Ionut, C.Viespe, D.Miu, A.Marcu at EUROINVENT European Exhibition of Creativity and Inovation, 20-22 May, 2021, Iasi, Romania,
- 2 Silver medal for „Laser based particle aceleration system alignment using parasitic electromagnetic pulses” by Aurelian Marcu, Ravan Ungureanu, M. Serbanescu, G.L. Giubega, C. Diplasu, E. Stancu, G.Cojocaru, M.Zamfirescu, A. Alexandru, M.C.Lupu, M.Trupina, N.Tudor, M.Stoicu, G. Marin, at EUROINVENT 14<sup>th</sup> European Exhibition of Creativity and Inovation, 26-28 May, 2022, Iasi, Romania

### **Organized Conferences/Symposiums:**

1. High power lasers and application (Symposium 3) within the frames of 2<sup>nd</sup> International Conference on Applied Physics Science and Computers, **APSAC 2017** Dubrovnik, Croatia, September 27-28, 2017
2. High power laser applications (Symposium 19) within the frames of 5th International Conference on Mathematics and Computers in Sciences and Industry, **MCSI 2018**, Corfu, Greece, August 25-27, 2018
3. The International Conference on Laser, Plasma and Radiation - Science and Technology, **ICLPR-ST**, 7-10 Iunie, 2022, Bucharest, Romania