



## Europass Curriculum Vitae

### Informatii personale

Nume / Prenume

**DUMITRACHE FLORIAN**

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Cetatenie

**ROMANA**

Data nasterii

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### Experienta profesionala

Data

**2020-prezent**

Ocupatia sau pozitia detinuta

Cercetator Stiintific I

Activitati principale si responsabilitati

Coordonarea Activitatii grupului "Fochimie cu Laser" din Sectia Laseri; implementarea de Proiecte de Cercetare si elaborarea de articole stiintifice in domeniile: Nanomateriale si nanotehnologii, sinteza de pulberi nanometrice prin tehnica de piroliza laser, obtinerea si caracterizarea de dispersii stabile folosind nanoparticulele. Analiza nanoparticulelor prin tehnici XRD, SEM, EDX, TEM, EELS, etc si interpretarea rezultatelor

Numele si adresa angajatorului

Institutul National de Cercetare-Dezvoltare pentru Fizica Laserilor, Plasmei si Radiatiilor, Atomistilor nr. 409, Sectia Laseri, 07725, Magurele, Bucuresti, Romania

Tipul sau sectorul de activitate

Cercetare-Dezvoltare

Data

**2005 - 2020**

Ocupatia sau pozitia detinuta

Cercetator Stiintific III

Activitati principale si responsabilitati

Coordonarea si implementarea de Proiecte Stiintifice si scrierea de articole stiintifice in domeniile: Nanomateriale si nanotehnologii, sinteza de pulberi nanometrice prin tehnica de piroliza laser, obtinerea si caracterizarea de dispersii stabile folosind nanoparticulele. Analiza nanoparticulelor prin tehnici XRD, SEM, EDX, TEM, EELS, etc si interpretarea rezultatelor

Numele si adresa angajatorului

Institutul National de Cercetare-Dezvoltare pentru Fizica Laserilor, Plasmei si Radiatiilor, Atomistilor nr. 409, Sectia Laseri, 07725, Magurele, Bucuresti, Romania

Tipul sau sectorul de activitate

Cercetare-Dezvoltare

Data

**2000 - 2005**

Ocupatia sau pozitia detinuta

Cercetator Stiintific

Activitati principale si responsabilitati

Coordonarea si implementarea de Proiecte Stiintifice si scrierea de articole stiintifice in domeniile: Nanomateriale, nanoparticule pe baza de fier sintetizate prin piroliza laser, spectroscopie Raman, tratamente special de suprafata cu laserul, analize FT-IR, responsabil cu analiza si interpretarea imaginilor /spectrelor TEM, SAED, EDX, EELS

Numele si adresa angajatorului

Institutul National de Cercetare-Dezvoltare pentru Fizica Laserilor, Plasmei si Radiatiilor, Atomistilor nr. 409, Sectia Laseri, 07725, Magurele, Bucuresti, Romania

Tipul sau sectorul de activitate

Cercetare-Dezvoltare

Data	<b>1997 - 2000</b>
Ocupatia sau pozitia detinuta	Cercetator Stiintific
Activitati principale si responsabilitati	Activitati de cercetare implicand proiecte stiintifice in domeniul sintezelor de filme subtiri prin metodele de evaporare termica sau depunere chimica din stare de vapori (CVD) .
Numele si adresa angajatorului	MATPUR, Str. Drumul Intre Tarlale nr.41-45, sector 3, Bucuresti
Tipul sau sectorul de activitate	Cercetare-Dezvoltare
Data	<b>1993 - 1997</b>
Ocupatia sau pozitia detinuta	Fizician
Activitati principale si responsabilitati	Supraveghere si controlul proceselor de crestere de siliciu monocristalin
Numele si adresa angajatorului	MATPUR, Str. Drumul Intre Tarlale nr.41-45, sector 3, Bucuresti
Tipul sau sectorul de activitate	Productie
<b>Educatie si pozitie academica</b>	
Data	2010- 2013
Calificare/diploma obtinuta	Diploma de Doctor in Fizica
Numele Institutiei de invatamant/Subiecte principale/calificari ocupationale acoperite	Universitatea Bucuresti, Facultatea de Fizica/ Nanoparticule pe baza de fier sintetizate prin piroliza laser-caracterizari si aplicatii
Data	2008
Calificare/diploma obtinuta	Stagiu postuniversitar
Stagiu postuniversitar Subiecte principale/calificari ocupationale acoperite	ENEA Frascati, Italia/ Analize XRD, Sinteze prin piroliza cu laser continuu cu CO2 de nanoparticule de Si and SiC
Data	2007
Calificare/diploma obtinuta	Stagiu postuniversitar
Stagiu postuniversitar Subiecte principale/calificari ocupationale acoperite	Academa de Stiinte a Cehiei, Praga, Cehia/ Analize FT-IR , TGA si sinteze folosind piroliza induse de laser cu CO2 in reactor inchis
Data	2003, 2004
Calificare/diploma obtinuta	Stagiu postuniversitar
Numele Institutiei de invatamant/Subiecte principale/calificari ocupationale acoperite	Institutul Max Planck din Jena, Univ. din Jena Germania/ Spectroscopie Raman, piroliza laser cu laser pulsant TEA cu CO2 pentru obtinerea de nanoparticule de siliciu (quantum dots)
Data	2002
Calificare/diploma obtinuta	Stagiu postuniversitar
Numele Institutiei de invatamant/Subiecte principale/calificari ocupationale acoperite	Universitatea din Leeds Marea Britanie, Departamentul de Stiinta Materialeor/ Analize BET si TEM
Data	1998
Calificare/diploma obtinuta	Cursuri postuniversitare
Numele Institutiei de invatamant/Subiecte principale/calificari ocupationale acoperite	Academia Romana / Analize NMR
Data	1988-1993
Calificare/diploma obtinuta	Diploma de Master
Numele Institutiei de invatamant/Subiecte principale/calificari ocupationale acoperite	Universitatea Bucuresti, Facultatea de Fizica/ Stiinta si Ingineria Materialelor
Data	1983-1987
Calificare/diploma obtinuta	Diploma de Bacalaureat
Numele Institutiei de invatamant/Subiecte principale/calificari ocupationale acoperite	Liceul V. Alecsandri din Galati/lacatus mecanic

Limba materna **româna**  
 Limbi straine cunoscute

Autoevaluare

Intelegere	Vorbire	Scriere
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Nivel european	Ascultare	Citire	Exprimare scrisa	Discurs oral	Exprimare scrisa
Limba engleza	C1	C1	C1	C1	C1
Limba franceza	B1	B1	B1	B1	B1

#### Competente si aptitudini organizatorice

Conducerea echipelor de cercetare in cadrul proiectelor:  
 CERES 19/2003-2005 – „Depuneri de nanostructuri carbonice dure prin metode chimice induse cu laserul”  
 PN-III-P2-2.1-PED-2016-1698 „ Nanoparticule hibride de Fe-Si magnetic-luminiscente destinate pentru aplicatii biomedicale”  
 Conducerea echipe de cercetare in cadrul sub-proiectului 3 „Tehnologii pe baza de nanostructuri controlate magnetic cu aplicatii in terapii oncologice: diagnoza precoce si tratament” din cadrul Proiectului Complex PN-III-P1-1.2-PCCDI 2017-0728 “Proiect integrat de dezvoltare a unor tehnologii dedicate tratamentelor medicale avansate”  
 Conducerea echipei de cercetare INFLPR in cadrul sub-proiectului 2 “Catalizatori – Procese electrochimice in pile de combustibil tip PEM” din cadrul Proiectului Complex PN-III-P1-1.2-PCCDI 2017 -0194 “Motorul revolutiei energetice bazate pe hidrogen – Pile de combustibil, pe drumul de la cecetare la productie prin minimizarea baroierelor tehnologice

#### Competente si aptitudini tehnice

Realizarea de instalatii experimentale , testarea si imbunatatirea lor

#### Competenta digitala

Hardware- interfete intre between Computer si aparate de masura si control ale debitelor si presiunii (tip MKS \_  
 Software- Visual Basic  
 Operare cu sisteme Windows si Linux  
 Programe specific: Crisp2, powdercell etc  
 Programe : Microsoft Office, Origin, Corel-Draw , SciDavis

#### Alte competente

Raman Spectroscopy, XRD, TEM, SEM, EDX

#### Permis de Conducere

- da

#### Alte informatii

-Membru in SPIE-Ro, Presedinte ala SPIIE Sectiunea tineret Romania 2003-2004  
 -Membru al Societatii de Cercetare a Materialeor (Material Research Society MRS)  
 -Membru al al Societatii Europene de Cercetare a Materialeor (European Materials Research Society EMRS)

#### Anexe

### Lucrari stintifice publicate in Jurnale cotate ISI

I. Morjan, I. Voicu, F. Dumitrache, I. Sandu, I. Soare, R. Alexandrescu, E. Vasile, I. Pasuk , R.M.D. Brydson , H. Daniels , B. Rand “Carbon nanopowders from the continuous-wave CO<sub>2</sub> laser-induced pyrolysis of ethylene” *Carbon* 41 (2003) 2913–2921

I. Morjan, R. Alexandrescu, I. Soare, F. Dumitrache, I. Sandu, I. Voicu, A Crunteanu, E. Vasile, V. Ciupina, S. Martelli “Nanoscale powders of different iron oxide phases prepared by continous laser irradiation of iron pentacarbonyl-containing gas precursors” *Mater. Sci. Eng. C*, 23 (2003) 211-216

S. G. Yastrebov, V. I. Ivanov-Omski, F. Dumitrache, C. Morosanu, "Raman Spectroscopy of Amorphous Carbon Modified with Iron", *Semiconductors* Vol. 37, No. 4, 2003 p. 473-476

R. Alexandrescu, I. Morjan, F. Dumitrache, I. Voicu, I. Soare, I. Sandu, C.T. Fleaca “Recent developments in the synthesis of iron-based nanostructures by laser pyrolysis: Integrating structural analysis with the experimental method” *Solid State Phenomena* Vol. 99-100, p.181-190, 2004

R. Alexandrescu, F. Dumitrache, I. Morjan, I. Sandu, M. Savoiu, I Voicu, C. Fleaca, R Piticescu, “TiO<sub>2</sub> nanosized powders by TiCl<sub>4</sub> laser pyrolysis” *Nanotechnology* 15, p. 537–545, 2004

- F. Dumitrache, I. Morjan, R. Alexandrescu, R.E. Morjan, I. Voicu, I. Sandu, I. Soare, M. Ploscaru, C. Fleaca, V. Ciupina, G. Prodan, B. Rand, R. Brydson, A. Woodward, **"Nearly monodispersed carbon coated iron nanoparticles for the catalytic for growth of nanotubes/nanofibres"** *Diamond Relat. Mater.*, Vol 13/2, p. 362-370, 2004.
- I. Morjan, I. Voicu, R. Alexandrescu, I. Pasuk, I. Sandu, F. Dumitrache, I. Soare, T.C. Fleaca, M. Ploscaru, V. Ciupina, H. Daniels, A. Westwood, B. Rand, **"Gas composition in laser pyrolysis of hydrocarbon-based mixtures: influence on soot morphology"** *Carbon* 42, p.1269-1273, 2004
- S.G. Yastrebov, V.I. Ivanov-Omskii, V.A. Kosobukin, F. Dumitrache, C. Morosanu, **"Raman spectra of iron-modified amorphous carbon"** *Technical Phys. Lett.*, Vol. 30, No. 12, 2004, pp. 995-997;
- J. Pola, Z. Bastl, V. Vorlicek, F. Dumitrache, R. Alexandrescu, I. Morjan, I. Sandu, V. Ciupina **"Laser-induced synthesis of iron-iron oxide/methylmethoxy silicone nanocomposite"** *Appl. Organometal. Chem.* 2004; **18**: 337-342
- J. Pola, M. Marysko, V. Vorlicek, Z. Bastl, A. Galikova, K. Vacek, R. Alexandrescu, F. Dumitrache, I. Morjan, L. Albu, G. Prodan **"Infrared laser synthesis and properties of magnetic nano-iron-polyoxocarbosilane composites"** *Appl. Organometal. Chem.* 2005; **19**: 1015-1021
- R. Alexandrescu, I. Morjan, I. Voicu, F. Dumitrache, L. Albu, I. Soare, G. Prodan **"Combining resonant/non-resonant processes: Nanometer-scale iron-based material preparation via CO<sub>2</sub> laser pyrolysis"** *Appl. Surf. Sci.* 248 (2005) 138-146
- F. Dumitrache, I. Morjan, R. Alexandrescu, V. Ciupina, G. Prodan, I. Voicu, C. Fleaca, L. Albu, M. Savoivu, I. Sandu, E. Popovici, I. Soare **"Iron-iron oxide core-shell nanoparticles synthesized by laser pyrolysis followed by superficial oxidation"** *Appl. Surf. Sci.* 247 (2005) 25-31
- C. Jaeger, H. Mutschke, F. Huisken, R. Alexandrescu, I. Morjan, F. Dumitrache, R. Barjega, I. Soare, B. David, O. Schneeweiss, **"Iron-carbon nanoparticles prepared by CO<sub>2</sub> laser pyrolysis of toluene and iron pentacarbonyl"** *Appl Phys. A* 85 (2006) 53-62
- I. Sandu, I. Morjan, I. Voicu, R. Alexandrescu, F. Dumitrache, I. Soare, C. T. Fleaca, L. Albu, M. Scarisoreanu, E. Popovici **"Self-assembly onto solid surface of some nanopowders synthesized by laser pyrolysis"** *Smart Mater. Struct.* 15 (2006) 816-820
- B. David, N. Pizurova, O. Schneeweiss, P. Bezdicka, M. Klementova, J. Filip, R. Alexandrescu, F. Dumitrache, C. Fleaca, I. Voicu, I. Morjan **"Multi-walled carbon nanotubes formed by condensed-phase conversions of Fe-C-based nanopowder in vacuum"** *Czechoslovak J. Phys.*, vol.56, Supplement I, E51-E61(1) 2006
- B. David, R. Zboril, M. Mashlan, T. Grygar, F. Dumitrache, O. Schneeweiss **"Single ferromagnetic behaviour of nanopowders with Fe<sub>3</sub>C"** *J. Magn. Magn. Mater.* 304 (2006) e787-e789
- B. David, O. Schneeweiss, N. Pizurova, M. Klementova, P. Bezdicka, R. Alexandrescu, F. Dumitrache, I. Morjan **"Fe<sub>3</sub>C nanopowder synthesized by laser pyrolysis and its annealing behavior"** *Surf. Interface Analysis* 2006; 38: 482-485
- A. Tomescu, R. Alexandrescu, I. Morjan, F. Dumitrache, L. Gavrilă-Florescu, R. Birjega, I. Soare, G. Prodan, Z. Bastl, A. Galikova, J. Pola **"Structural and sensing properties of a novel Fe/Fe<sub>2</sub>O<sub>3</sub>/polyoxocarbosilane core shell nanocomposite powder prepared by laser pyrolysis"** *J. Mater.Sci.* 42 (2007) 1838-1846
- S. Gaman, C. Morosanu, F. Dumitrache, N. Apetroaei, S. Yastrebov **"Diamond and polymeric-like films prepared by PECVD method"** *J. Optoelect. Adv. Mater.* 9 (2007) 1450-1453
- B. David, N. Pizurova, O. Schneeweiss, M. Klementova, E. Santava, F. Dumitrache, R. Alexandrescu, I. Morjan **"Magnetic properties of nanometric Fe-based particles obtained by laser-driven pyrolysis"** *J. Phys. Chem. Solids* 68 (2007) 1152-1156
- R. Alexandrescu, I. Morjan, M. Scarisoreanu, R. Birjega, E. Popovici, I. Soare, L. Gavrilă-Florescu, I. Voicu, I. Sandu, F. Dumitrache, G. Prodan, E. Vasile, E. Figgemeier **"Structural investigations on TiO<sub>2</sub> and Fe-doped TiO<sub>2</sub> nanoparticles synthesized by laser pyrolysis"** *Thin Solid Films* 515 (2007) 8438-8445
- I. Morjan, I. Soare, R. Alexandrescu, R.-E. Morjan, L. Gavrilă-Florescu, G. Prodan, I. Sandu, E. Popovici, F. Dumitrache, I. Voicu, M. Scarisoreanu **"Carbon nanotubes growth from C<sub>2</sub>H<sub>2</sub> and C<sub>2</sub>H<sub>4</sub>/NH<sub>3</sub> by catalytic LCVD on supported iron-carbon nanocomposites"** *Physica E* 37 (2007) 26-33
- R. Alexandrescu, I. Morjan, F. Dumitrache, R. Birjega, C. Jaeger, H. Mutschke, I. Soare, L. Gavrilă-Florescu, V. Ciupina **"Structural characteristics of Fe<sub>3</sub>C-based nanomaterials prepared by laser pyrolysis from different gas-phase precursors"** *Mater. Sci. Eng. C* 27 (2007) 1181-1184
- F. Le Normand, C.S. Cojocaru, P. Legagneux, L. Gangloff, C. Fleaca, R. Alexandrescu, F. Dumitrache, I. Morjan **"Aligned carbon nanotubes catalytically grown on iron-based nanoparticles obtained by laser induced CVD"** *Appl. Surf. Sci.*, 254, p.1058-1066, 2007

E. Popovici, F. Dumitrache, I. Morjan, R. Alexandrescu, V. Ciupina, G. Prodan, L. Vekas, D. Bica, O. Marinica, E. Vasile "Iron/iron oxides core-shell nanoparticles by laser pyrolysis: Structural characterization and enhanced particle dispersion" *Appl. Surf. Sci.* 254 (2007) 1048–1052

I. Morjan, I. Soare, R. Alexandrescu, L. Gavrilă-Florescu, R.-E. Morjan, G. Prodan, C. Fleaca, I. Sandu, I. Voicu, F. Dumitrache, E. Popovici "Carbon nanotubes grown by catalytic CO<sub>2</sub>-induced chemical vapor deposition on core-shell Fe/C composite nanoparticles" *Infrared Phys. Technol.* Vol. 51, Issue 3, 186-197, 2008

C.T. Fleaca, I. Morjan, R. Alexandrescu, F. Dumitrache, I. Soare, L. Gavrilă-Florescu, F. Le Normand, O. Ersen "Catalysed growth of oriented carbon nanotubes using Fe – organosilicon core-shell nanoparticles" *Physica E: Low-dimensional Systems and Nanostructures*, 40 (7), p.2252-2256, 2008

R. Alexandrescu, I. Morjan, F. Dumitrache, M. Scarisoreanu, I. Soare, C. Fleaca, R. Birjega, E. Popovici, L. Gavrilă, G. Prodan, V. Ciupina, G. Filoti, V. Kuncser, L. Vekas "Photochemistry aspects of the laser pyrolysis addressing the preparation of oxide semiconductor photocatalysts" *Int. J. of Photoenergy*, Vol. 2008 Article ID 604181, 11 pages (doi:10.1155/2008/604181)

I.M. Oancea-Stanescu, V. Ciupina, G. Prodan, I. Morjan, F. Dumitrache, E. Vasile, R. Trusca, M. Prodan "Studies of carbon nanostructures by TEM procedures" *J. Optoelect. Adv. Mater.* 10 (2008) 3257-3260

C.T. Fleaca, I. Morjan, R. Alexandrescu, F. Dumitrache, I. Soare, L. Gavrilă-Florescu, F. Le Normand, A. Derory "Magnetic properties of core-shell catalyst nanoparticles for carbon nanotube growth" *Appl. Surf. Sci.* 255 (2009) 5386-5390

I. Sandu, F. Dumitrache, C. Fleaca, O. Cretu, I. Morjan "The synthesis of free-standing films of polymer/carbon nanocomposite using the carbon nanopowder's buoyancy" *Solid State Sci.* 11 (2009) 1793-1796

I. Morjan, R. Alexandrescu, M. Scarisoreanu, C. Fleaca, F. Dumitrache, I. Soare, E. Popovici, L. Gavrilă, E. Vasile, V. Ciupina, N.C. Popa "Controlled manufacturing of nanoparticles by the laser pyrolysis: Application to cementite iron carbide" *Appl. Surf. Sci.* 255 (2009) 9638–9642

I. Morjan, R. Alexandrescu, F. Dumitrache, R. Birjega, C. Fleaca, I. Soare, C. R. Luculescu, G. Filoti, V. Kuncser, N. C. Popa, G. Prodan "Iron oxide – based nanoparticles with different mean sizes obtained by the Laser Pyrolysis : structural and magnetic properties" *J. Nanosci. Nanotechnol.* vol.10, 1-12, 2010 1220-1234

R. Alexandrescu, I. Morjan, F. Dumitrache, R. Birjega, C. Fleaca, C.R. Luculescu, E. Popovici, I. Soare, I. Sandu, E. Dutu, G. Prodan "Development of Fe -doped SnO<sub>2</sub>-based nanocomposite prepared by single-step laser pyrolysis" *J. Optoelect. Adv. Mat.* 12 (2010) 599-604

I. Sandu, I. Morjan, I. Voicu, F. Dumitrache, C.T. Fleaca, L. Gavrilă-Florescu "Voltage and temperature coefficients of resistance of polyethylene/ nanocarbon-based thick-film composites: melt-mixing versus melt-infiltration synthesis" *J. Plastic Film Sheet.*, vol. 26, no.1, 71-81 (2010)

R. Alexandrescu, I. Morjan, A. Tomescu, C.E. Simion, M. Scarisoreanu, R. Birjega, C. Fleaca, L. Gavrilă, I. Soare, F. Dumitrache, G. Prodan "Direct production of novel iron-based nanocomposite from the laser pyrolysis of Fe(CO)<sub>5</sub>/MMA mixtures: structural and sensing properties" *J. Nanomat.* Vol.2010 Article ID 324532, 12 pag.

B. David, O. Schneeweiss, N. Pizurova, F. Dumitrache, C. Fleaca, R. Alexandrescu "Nanoparticles with superparamagnetic Fe<sub>3</sub>C particles and their annealing behavior" *Surf. Interface Analysis* 42 (2010) 699-702

R. Alexandrescu, I. Morjan, F. Dumitrache, R. Birjega, C. Fleaca, I. Soare, L. Gavrilă, C. Luculescu, G. Prodan, V. Kuncser, G. Filoti, "Recent developments in the formation and structure of tin-iron oxides by laser pyrolysis" *Appl. Surf. Sci.* 12 (2011) 5460-5464

F. Dumitrache, I. Morjan, C. Fleaca, R. Birjega, E. Vasile, V. Kuncser, R. Alexandrescu "Parametric studies on iron-carbon composite nanoparticles synthesized by laser pyrolysis for increased passivation and high iron content" *Appl. Surf. Sci.* 12 (2011) 5265-5269

C.T. Fleaca, I. Morjan, R. Alexandrescu, F. Dumitrache, I. Soare, L. Gavrilă-Florescu, I. Sandu, E. Dutu, F. Le Normand, J. Faerber "Oriented carbon nanostructures grown by hot-filament plasma-enhanced CVD from self-assembled Co-based catalyst on Si substrates" *Physica E*, In Press, In Press, Corrected Proof, Nov. 2010 doi:10.1016/j.physe.2010.11.017

I. Morjan, F. Dumitrache, R. Alexandrescu, C. Fleaca, R. Birjega, C.R. Luculescu, I. Soare, E. Dutu, G. Filoti, V. Kuncser, G. Prodan, N.C. Popa, L. Vékás "Laser synthesis of magnetic iron-carbon nanocomposites with size dependent properties" *Adv. Powder Technol.* (2011) In Press, Corrected Proof, doi:10.1016/j.apt.2010.12.014

I. Sandu, M. Brasoveanu, I. Morjan, I. Voicu, F. Dumitrache, T. C. Fleaca, L. Gavrilă-Florescu "Synthesis of optical transparent and electrical conductive polymer/nanocarbon composite films by infiltration method" *Thin Solid Films* 519 (2011) 4128-4131

- G. Huminic A. Huminic I. Morjan,, *F. Dumitrache* **"Experimental study of the thermal performance of thermosyphon heat pipe using iron oxide nanoparticles"** *Int. J. Heat Mass Transfer* 54,(2011) 656-661
- C.T. Fleaca , *F. Dumitrache*, I. Morjan, R. Alexandrescu, I. Sandu, C. Luculescu, R. Birjeg G.Prodan, I. Stamatin **"Fe-inserted and shell-shaped carbon nanoparticles by cluster-mediated laser pyrolysis"** *Appl. Surf. Sci.* 258 (2012) 9394-9398
- C.T. Fleaca, I. Morjan, R. Alexandrescu, *F. Dumitrache*, I. Soare, L. Gavrilă-Florescu, I. Sandu, E. Duta, F. Le Normand, J. Faerber **"Oriented carbon nanostructures grown by hot-filament plasma-enhanced CVD from self-assembled Co-based catalyst on Si substrates"** *Physica E* 44 (2012) 1024-1027
- E. Popovici, C. Luculescu, R. Alexandrescu, C. Fleaca, *F. Dumitrache*, R. Birjega, M. Scarisoreanu, E. Duta, A. Barbut, I. Morjan, E. Vasile **"Development of systems for the laser synthesis of nanoparticles starting from liquid precursors"** *Appl. Surf. Sci.* 238 (2012) 9926-9932
- R. Alexandrescu, I. Morjan, *F. Dumitrache*, M. Scarisoreanu, C. Fleaca, I.P. Morjan, A. Barbut, R. Birjega, G. Prodan **"Development of TiO<sub>2</sub> and TiO<sub>2</sub>/Fe-based polymeric nanocomposites by single-step laser pyrolysis"** *Appl. Surf. Sci.* 278 (2013) 305-312
- C.T. Fleaca, *F. Dumitrache*, I. Morjan, R. Alexandrescu, C. Luculescu, A. Niculescu, E. Vasile, V. Kuncser **"Novel Fe@C – TiO<sub>2</sub> and Fe@C – SiO<sub>2</sub> water-dispersible magnetic nanocomposites"** *Appl. Surf. Sci.* 278 (2013) 284-288
- A. Marcu, S. Pop, *F. Dumitrache*, M. Mocanu, C.M. Niculite, M. Gherghiceanu, C.P. Lungu, C. Fleaca, A. Barbut, C. Grigoriu, I. Morjan **"Magnetic iron oxide nanoparticles as drug delivery system in breast cancer"** *Appl. Surf. Sci.* 281 (2013) 60-65
- C.T. Fleaca, M. Scarisoreanu, I. Morjan, R. Alexandrescu, *F. Dumitrache*, C. Luculescu, I.P. Morjan, R. Birjega, A.-M. Niculescu, G. Filoti, V. Kuncser, E. Vasile, V. Danciu, M. Popa **"Recent progress in the synthesis of magnetic titania/iron-based composite nanoparticles manufactured by laser pyrolysis"** *Appl. Surf. Sci.* 302 (2014) 198-204
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C.T. Fleaca, I. Morjan, R. Alexandrescu, *F. Dumitrache*, I. Soare, L. Gavrilă-Florescu **“Catalysed growth of oriented carbon nanotubes using Fe – organosilicon core-shell nanoparticles”** E-MRS Spring Meeting, Strasbourg, France, May 28 – June 1, 2007

D. Marcov, N. Apetroaie, *F. Dumitrache*, L. Verestiuc, C. Morosanu, **“DLC and PLC structures for medical applications”** - 21<sup>st</sup> European Conference on Biomaterials ESB 2007, September 9-13, Brighton, United Kingdom

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R. Alexandrescu, I. Morjan, *F. Dumitrache*, R. Birjega, C. Fleaca, C. R. Luculescu, E. Popovici, I. Soare, I. Sandu, G. Prodan **“Development of Fe-doped SnO<sub>2</sub> nanocomposites prepared by single-step laser pyrolysis”** E-MRS Spring Meeting, Strasbourg, France, June 8 – 12, 2009

C.T. Fleaca, I. Morjan, R. Alexandrescu, *F. Dumitrache*, I. Soare, L. Gavrilă-Florescu, F. Le Normand, J. Faerber **“Carbon nanostructures from Fe-C nano-composites by activated CVD methods”** E-MRS Spring Meeting, Strasbourg, France, June 8 – 12, 2009

*F. Dumitrache*, C. Fleaca, I. Morjan, R. Alexandrescu, O. Cretu, R. Barjega **“Advances in iron-oxide based nanocomposite synthesized by laser pyrolysis”** E-MRS Spring Meeting, Strasbourg, France, June 8 – 12, 2009

B. David, O. Schneeweiss, *F. Dumitrache*, C. Fleaca, R. Alexandrescu, I. Morjan **“Powders with superparamagnetic Fe<sub>3</sub>C particles studied with Mössbauer spectroscopy”**, July 14-24, Int. Conf. on the Appl. of the Mossbauer Effect, Vienna, Austria ICAME 2009 2009

R. Alexandrescu, I. Morjan, R. Birjega, C. Fleaca, L. Gavrilă, I. Soare, *F. Dumitrache*, G. Prodan, A. Tomescu **“Preparation of Iron/Polymer-based nanocomposite materials by the laser pyrolysis of Fe(CO)<sub>5</sub>/MMA mixtures: structural and sensing properties”** 23rd Conf. of European Colloids and Interface Society ECIS 2009, Antalya, Turkey, Sept.6 - 11, 2009

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*F. Dumitrache*, I. Morjan, C. Fleaca, R. Birjega, R. Alexandrescu, **“Parametric studies on iron-carbon composite nanoparticles synthesized by laser pyrolysis for increased passivation and high iron content”** E-MRS Spring Meeting, Strasbourg, France, June 7 – 11, 2010

*F. Dumitrache*, E. Popovici, I. Morjan, I. Sandu, C. Fleaca, C. Luculescu, R. Alexandrescu **“Improved exhaust system for minimizing the agglomeration of Fe-based nanoparticles in laser pyrolysis processes”** E-MRS Spring Meeting, Strasbourg, France, June 7 – 11, 2010

R. Alexandrescu, I. Morjan, *F. Dumitrache*, R. Birjega, C. Fleaca, I. Soare, L. Gavrilă, C. Luculescu, G. Prodan, V. Kuncser **“Recent developments in the formation and structure of tin-iron oxides by laser pyrolysis”** E-MRS Spring Meeting, Strasbourg, France, June 7 – 11, 2010

C.T. Fleaca, I. Morjan, R. Alexandrescu, I. Voicu, *F. Dumitrache*, I. Soare, L. Gavrilă-Florescu, I. Sandu, E. Dutu, F. Le Normand, J. Faerber **“Oriented carbon nano-structures grown by hot-filaments PECVD from self-assembled catalyst on Si substrates”** E-MRS Spring Meeting, Strasbourg, France, June 7 – 11, 2010

C.T. Fleaca, *F. Dumitrache*, I. Morjan, R. Alexandrescu, I. Sandu, C. Luculescu, R. Birjega, G. Prodan, I. Stamatina **“Fe-doped shell-shaped carbon nanoparticles by cluster-mediated laser pyrolysis”** E-MRS Spring Meeting, Nice, France, May 9 - 13, 2011.

*F. Dumitrache*, I. Morjan, R. Alexandrescu, C.T. Fleaca, R. Birjega, G. Filoti, V. Kuncser, G. Prodan, L. Vekas **“Magnetic behavior and structural characteristics of Fe@C nanoparticles synthesized by laser pyrolysis in different experimental geometric arrangements”** E-MRS Spring Meeting, Nice, France, May 9 - 13, 2011.

*F. Dumitrache*, C.T. Fleaca, I. Morjan, R. Alexandrescu, I. Sandu, C. Luculescu, A. Barbut **“Iron oxide superparamagnetic nanoparticles synthesized by laser pyrolysis: the influence of O<sub>2</sub> on the structural and magnetic properties”** E-MRS Spring Meeting, Nice, France, May 9 - 13, 2011.

R. Alexandrescu, I. Morjan, *F. Dumitrache*, R. Birjega, C. Fleaca, I. Morjan, M. Scarisoreanu, C. R. Luculescu, E. Dutu, V. Ciupina “**Laser processing issues of nanosized intermetallic Fe-Sn and metallic Sn particles**” E-MRS Spring Meeting, Nice, France, May 9 - 13, 2011.

E. Popovici, C. Luculescu, R. Alexandrescu, C. Fleaca, *F. Dumitrache*, R. Birjega, M. Scarisoreanu, E. Dutu, A. Barbut, I. Morjan “**Development of systems for the laser synthesis of nanoparticles starting from liquid precursors**” E-MRS Spring Meeting, Nice, France, May 9 - 13, 2011.

E. Popovici, C. Luculescu, R. Alexandrescu, C. Fleaca, *F. Dumitrache*, R. Birjega, M. Scarisoreanu, E. Dutu, A. Barbut, I. Morjan “**Iron-based nanoparticles for medical applications: development of systems for the laser gas-phase synthesis starting from liquid precursors**” E-MRS Spring Meeting, Nice, France, May 9 - 13, 2011.

A. Rotaru, R. Alexandrescu, M. Scarisoreanu, L. Gavrilă, *F. Dumitrache*, C. Fleaca, I. Morjan “**Comparative study of the thermal behavior of Fe-based organosilicon nano-composites prepared by laser pyrolysis**” 1<sup>st</sup> Central and Eastern European Conference on Thermal Analysis and Calorimetry CEEC-TAC, Craiova, Romania, September 7-10, 2011

I. Morjan, P. Rotaru, M. Scarisoreanu, I.P. Morjan, *F. Dumitrache*, C. Fleaca, E. Dutu, A. Barbut, R. Alexandrescu “**A structural study of Fe-based/methyl-methacrylate polymeric nanocomposite prepared by laser pyrolysis**” 1<sup>st</sup> Central and Eastern European Conference on Thermal Analysis and Calorimetry CEEC-TAC, Craiova, Romania, September 7-10, 2011

D. Bratosin, A. Rugina, A-M., Gheorghe A.L. Ciotec, *F. Dumitrache*, C. Fleaca, R. Alexandrescu C., Luculescu, L. Florescu, I. Voicu, I. Morjan “**Analiza bio-compatibilitatii nanoparticulelor pe baza de carbon-fier prin citometrie in flux folosind eritrocite umane**” (Biocompatibility of Carbon-Iron based nanoparticles assessment by Flow Citometry using human red blood cells), Al VIII-lea Congres National de Citometrie, Bucuresti, Romania, 10-11 mai, 2012

R. Alexandrescu, I. Morjan, *F. Dumitrache*, M. Scarisoreanu, C. T. Fleaca, I.P. Morjan, A.D. Barbut, R. Birjega, G. Prodan “**Development of TiO<sub>2</sub> and Ti/Fe –based polymeric nanocomposites by single-step laser pyrolysis**” E-MRS Spring Meeting, Strasbourg, France, May 14-18, 2012

C. Fleaca, *F. Dumitrache*, R. Alexandrescu, C. Luculescu, A. Niculescu, E. Vasile, V. Kuncser „**Novel Fe@C-TiO<sub>2</sub> and Fe@C-SiO<sub>2</sub> water-dispersible magnetic nanocomposites**” E-MRS Spring Meeting, Strasbourg, France, May 14-18, 2012

*F. Dumitrache*, C. Fleaca, A. Rugina, A.M. Gheorghe, A.L. Ciotec, C. Luculescu, L. Florescu, I. Voicu, I. Morjan, D. Bratosin „**Biocompatibility of carbon-based nanoparticles by flow citometry using human blood cell**” E-MRS Spring Meeting, Strasbourg, France, May 14-18, 2012

A.D. Barbut, R. Alexandrescu, I. Morjan, I.P. Morjan, *F. Dumitrache*, C.T. Fleaca, C. Luculescu, E. Popovici, E. Dutu, M. Scarisoreanu, E. Vasile, R. Somoghi, L. Vekas „**Stabilization and covering with bio-compatible shells of iron-based nanoparticles obtained by laser pyrolysis**” E-MRS Spring Meeting, Strasbourg, France, May 14-18, 2012

C.R. Luculescu, I. Morjan, *F. Dumitrache*, C. Fleaca, O. Crisan „**Aqueous dispersions of iron-based magnetic nanoparticles synthesized by laser pyrolysis**” E-MRS Spring Meeting, Strasbourg, France, May 14-18, 2012

E. Popovici, C. Luculescu, R. Alexandrescu, C. Fleaca, *F. Dumitrache*, R. Birjega, M. Scarisoreanu, E. Dutu, A. Barbut, I. Morjan, E. Vasile “**Iron-based nanoparticles for medical applications: new achievement of systems for the laser gas-phase synthesis starting from liquid precursors**” E-MRS Spring Meeting, Strasbourg, France, May 14-18, 2012

R. Alexandrescu, I. Morjan, *F. Dumitrache*, I. Soare, M. Scarisoreanu, C.T. Fleaca „**Fe-based/methyl methacrylate polymeric nanocomposite prepared by laser pyrolysis: structural and thermal properties**” WCAM 2012 - BIT's 1<sup>st</sup> Annual World Congress of Advanced Materials, Beijing, China, June 6-8, 2012

*F. Dumitrache*, I. Morjan, R. Alexandrescu, C. Fleaca, I. Sandu, C. Luculescu, E. Vasile, L. Vekas, O. Marinica, C. Daia “**Stable dispersions and self assembled nanostructured films based on iron oxide nanoparticles synthesized by laser pyrolysis**” E-MRS Fall Meeting, Warsaw, Poland, September 17-21, 2012

A. Marcu, S. Pop, *F. Dumitrache*, M. Mocanu, C. M. Niculite, C. Fleaca, A. Barbut, C. Grigoriu, I. Morjan “**Characterization, properties and toxicology investigations of magnetic iron oxide nanostructures synthesized by laser techniques**” E-MRS Fall Meeting, Warsaw, Poland, September 17-21, 2012

C. Fleaca, I. Morjan, R. Alexandrescu, *F. Dumitrache*, M. Scarisoreanu, L. Gavrilă-Florescu, C. Luculescu, I. Morjan Soare, E. Popovici, I. Sandu, E. Dutu, A. Barbut, A. Niculescu „**Laser pyrolysis and nanomaterials. A focus on their properties and thermal behaviour**” Advanced Thermal Sciences Integrated Laboratory of INFLPR-UCV (NILPRP – Craiova University) Workshop, Magurele – Bucharest, Romania, December 18, 2012

F. Dumitrache, I. Morjan, **C. Fleaca**, R. Alexandrescu, C. Luculescu, O. Marinica, C. Daia, L. Vekas „**Water-based magnetic fluids using iron oxide nanoparticles synthesized by laser pyrolysis and coated with L-DOPA**” PARTEC – Int. Congress on Particle Technology, Nuremberg, Germany 23 - 25. April 2013

F. Dumitrache, **C. Fleaca**, R. Alexandrescu, I. Morjan, G. Huminic, A. Huminic, C. Daia, L. Vekas „**Structural and thermophysical properties of aqueous nanofluids based on Fe@C and Fe<sub>2</sub>O<sub>3</sub> nanoparticles synthesized by laser pyrolysis**” E-MRS Spring Meeting, Strasbourg, France, May 27-31, 2013

C.T. Fleaca, *F. Dumitrache*, I. Morjan, R. Alexandrescu, C. Luculescu, E. Vasile „**Magnetic nanocomposites based on Ag nanowires and Fe@C nanoparticles embedded in hydrophilic polymer matrix**” E-MRS Spring Meeting, Strasbourg, France, May 27-31, 2013

C.T. Fleaca, *F. Dumitrache*, I. Morjan, C. Luculescu, A. Niculescu, R. Birjega, I. Stamatina, A. Iordache, E. Vasile, G. Prodan, C. Rosca „**Structural and electrochemical evaluation of Fe@C – Polyaniline and Poly(1-naphthylamine) nano-composites as materials for supercapacitors**” E-MRS Spring Meeting, Strasbourg, France, May 27-31, 2013

E. Dutu, R. Alexandrescu, I. Morjan, *F. Dumitrache*, C. T. Fleaca, L. Gavrilă-Florescu, A. D. Badoi, E. Vasile, R. Birjega „**Sn-based core-shell nano-particles synthesized by laser pyrolysis from organic precursors**” E-MRS Spring Meeting, Strasbourg, France, May 27-31, 2013

R. Alexandrescu, M. Scarisoreanu, I. Morjan, I.P. Morjan, *F. Dumitrache*, **C.T. Fleaca**, R. Birjega, G. Filoti, V. Kuncser, V. Danciu „**Recent progress in the synthesis of magnetic titania/iron-based composite nanoparticles manufactured by laser pyrolysis**” E-MRS Spring Meeting, Strasbourg, France, May 27-31, 2013

C. Fleaca, M. Scarisoreanu, I. Morjan, C. Luculescu, A.-M. Niculescu, *F. Dumitrache*, E. Vasile, V. Danciu, M. Popa „**One-step laser pyrolysis synthesis of TiO<sub>2</sub> nanoparticles embedded in carbon-silica shells/matrix**” E-MRS Spring Meeting, Lille, France, May 26-30, 2014

*F. Dumitrache*, I. Morjan, C. Fleaca, C. Luculescu, A. Niculescu, A. Badoi, L. Vegas, O. Marinica, G. Manda, S. Pop, G. Huminic, A. Huminic „**Highly magnetic Fe<sub>2</sub>O<sub>3</sub> nanoparticles synthesized by laser pyrolysis used for biological and heat transfer applications**” E-MRS Spring Meeting, Lille, France, May 26-30, 2014

E. Dutu, *F. Dumitrache*, C. T. Fleaca, I. Morjan, L. Gavrilă-Florescu, I. Sandu, M. Scarisoreanu, I. P. Morjan, C. Luculescu, A. M. Niculescu, E. Vasile „**Metallic tin-based nanoparticles synthesis by laser pyrolysis: parametric studies focused on the decreasing of the crystallite size**” E-MRS Spring Meeting, Lille, France, May 26-30, 2014

E. Dutu, *F. Dumitrache*, C. Fleaca, I. Morjan, C. Luculescu „**Fe doped Tin oxide nanoparticles synthesized by laser pyrolysis: the structural and optical properties**” 5<sup>th</sup> Int. Symp. on Transparent Cond. Mater, Plataniias-Chania, Crete, Greece, Oct. 12-17, 2014

1M.V. Comanescu, *F. Dumitrache*, C. Fleaca, G. Isvoranu, B. Marinescu, M. Dobre, S. Pop, T. Poteca „**Nanotechnology and implication in cancer therapy**” XXX<sup>th</sup> Congress of the Int. Academy of Pathology IAP 2014, Bangkok, Thailand, Oct. 5-10, 2014

117. C. Fleaca, I. Sandu, *F. Dumitrache*, C. Luculescu, E. Vasile „**Free-standing nanostructured Janus polymeric membranes and sandwich films containing surface-embedded inorganic nanoparticles**” 4<sup>th</sup> Int. Conf. on Multifunctional, Hybrid and Nanomaterials HYMA 2015, Sitges (near Barcelona), Spain, March 9-13, 2015

C. Fleaca, *F. Dumitrache*, C. Luculescu, E. Vasile „**Rapid synthesis of nanoparticle-loaded polyacrylic acid/polyacrylates - based hybrid hydrogels and interpenetrated polymer network (IPN) hydrogels**” 4<sup>th</sup> Int. Conf. on Multifunctional, Hybrid and Nanomaterials HYMA 2015, Sitges (near Barcelona), Spain, March 9-13, 2015

C.T. Fleaca, *F. Dumitrache*, I. Morjan, C. Luculescu, A.-M. Niculescu, A. Ilie, I. Stamatina, A. Iordache, E. Vasile, G. Prodan

**"Magnetic nanocomposite containing carbon encapsulated iron nanoparticles embedded in PANI matrix"** E-MRS Spring Meeting, Lille, France, May 11-15, 2015

A. Badoi, F. Dumitrache, C. Fleaca, I. Morjan, L. Gavrilă, M. Scarisoreanu, N. Mihailescu, C. Luculescu, E. Dutu, A. Ilie, G. Manda, A. Cucu, L. Vekas, I. Ciuca **"Iron oxide nanoparticles synthesized by laser pyrolysis with modified surfaces design for bio-functionalization purposes"** E-MRS Spring Meeting, Lille, France, May 11-15, 2015

F. Dumitrache, R. Alexandrescu, I. Morjan, C. Fleaca, G. Huminic, L. Vekas, E. Vasile **"Iron/carbon based composite nanoparticles with a high magnetic response synthesized by laser pyrolysis"** E-MRS Spring Meeting, Lille, France, May 11-15, 2015

E. Dutu, F. Dumitrache, C. Fleaca, C. Vlaic, I. Morjan, A. Bund, A. Badoi, A.-M. Niculescu, I. P. Morjan, I. Sandu, E. Vasile **"Fe/Co doped tin-based nanoparticles synthesized by laser pyrolysis"** E-MRS Spring Meeting, Lille, France, May 11-15, 2015

F. Dumitrache, C. Fleaca, I. Morjan, A. Badoi, A.-M. Niculescu, O. Marinica, L. Vekas, E. Vasile **"Iron/silicon/silica nanoparticles synthesized via laser pyrolysis technique and thermal treatment"** 20<sup>th</sup> Int. Conf. on Magnetism, Barcelona, Spain, July 5-10, 2015

A. Badoi, A. Ilie, G. Manda, M. Mocanu, I. Morjan, F. Dumitrache, C. Fleaca, I. Sandu, L. Gavrilă, E. Vasile, I. Ciuca **"The synthesis and biofunctionalization of iron based nanoparticles by laser pyrolysis"** The 8<sup>th</sup> Int. Conf. of Adv. Mater. ROCAM 2015, 7-10, Iulie 2015, Bucuresti, Romania; (Nr. 1061; pag. 84, 2015, ISSN 1842-3574)

L.I. Anghelache, M. Comanescu, F. Dumitrache, A. Badoi, C.T. Fleaca, B. Marinescu, S. Pop, G. Isvoranu, V. Nicorescu, M. Crivineanu **"Preliminary toxicological study of L-DOPA-coated iron oxide nanoparticles in mice"** 13<sup>th</sup> Int. Congress of the European Association for Veterinary Pharmacology and Toxicology (EAVPT 2015), Nantes, France, July 19–22, 2015

F. Dumitrache, A. Rotaru, C. Fleaca, I. Morjan, M. Dumitru, A. Ilie, E. Badoi, C. Luculescu, E. Vasile, **"Thermal studies on iron-carbon based nanoparticles synthesized by laser pyrolysis using iron-pentacarbonyl and acrylic acid vapors as reactive mixture"** 3<sup>rd</sup> Conf. of Central and Eastern European Committee for Thermal Analysis and Calorimetry (CEEC-TAC3), Ljubljana, Slovenia, August 25-28, 2015.

F. Dumitrache, A. Rotaru, C. Fleaca, I. Morjan, E. Dutu, A.-M. Niculescu, A. Ilie, E. Vasile **"Structural and thermal study of Sn-based nanocomposite powders obtained by one-step laser pyrolysis"**, 25<sup>th</sup> Symposium of Thermal Analysis and Calorimetry "Eugen Segal", Bucharest, Romania, April 15, 2016

F. Dumitrache, C. Fleaca, P. Rotaru, I. Morjan, A.-M. Niculescu **"Structural evolution during air annealing of maghemite nanoparticles synthesized by laser pyrolysis"** 25<sup>th</sup> Symposium of Thermal Analysis and Calorimetry "Eugen Segal", Bucharest, Romania, April 15, 2016

C. Fleaca, F. Dumitrache, C. Vlaic, I. Morjan, A. Bund, M. Stich, I. Sandu, E. Dutu, A. Ilie, A.-M. Niculescu, E. Vasile **"Laser pyrolysis synthesized SnO<sub>x</sub>-SiO<sub>2</sub> nanoparticles for Li-ion battery anodes"** E-MRS Spring Meeting, Lille, France, May 2-6, 2016

F. Dumitrache, C. Fleaca, S. Pop, I. Morjan, I.P. Morjan, A. Badoi, E. Vasile, D. Marta, L. Vekas, O. Marinica **"Nanoparticles with Fe based core and Si(C) shell synthesized by laser pyrolysis"** E-MRS Spring Meeting, Lille, France, May 2-6, 2016

F. Dumitrache, C. Fleaca, E. Dutu, C. Vlaic, A. Ilie, A.-M. Niculescu, M. Scarisoreanu, E. Barna, I. Morjan, E. Vasile, A. Bund, M. Stich **"Cobalt doped and undoped mixed tin oxides nanopowders synthesised by laser pyrolysis"** E-MRS Spring Meeting, Lille, France, May 2-6, 2016

I. Sandu<sup>1</sup>, I. Urzica, A. M. Niculescu, C. T. Fleaca, F. Dumitrache, M. Badiceanu **"Self-organization of single-crystals as ripple patterns through laser ablation of ionic salts solutions"** 10<sup>th</sup> Int. Conf. on Photoexcited Processes and Applications (ICPEPA-10), Brasov, Romania, August 29 – September 2, 2016

F. Dumitrache, I. Morjan, C. Fleaca, E. Dutu, C. Luculescu, C.I. Locovei, E. Vasile, **"Al doped zinc oxide nanoparticles synthesized by laser pyrolysis"** 6<sup>th</sup> Int. Symposium on Transparent Conductive Materials TCM, Platania-Chania, Crete, Greece, Oct. 9-13, 2016

L. Gavrilă-Florescu, F. Dumitrache, M. Balas, C. Fleacă, C. Locovei, I.P. Morjan, M. Scarisoreanu, A. Ilie, A. Banici, G. Prodan, **"Synthesis by laser pyrolysis of Fe based core@ZnO shell nanopowders for biomedical applications"** E -MRS Spring Meeting, Strasbourg, France, May 22-26, 2017

A. Ilie, M. Scarisoreanu, F. Dumitrache, I. Mihailescu, A.-M. Banici, E. Dutu, C. Fleacă, L. Gavrilă-Florescu, I. Morjan **"Development of Raman statistical characterization method used in as synthesized phase separated nano-TiO<sub>2</sub> by Laser Pyrolysis"** E -MRS Spring Meeting, Strasbourg, France, May 22-26, 2017

C.T. Fleacă, F. Dumitrache, E. Dutu, A. Ilie, A.-M. Banici, E. Vasile, C. Vlaic, A. Bund, G. Prodan **"NH<sub>3</sub>-sensitized laser pyrolysis synthesis of Sn-Fe-N@ Polycarbosilazane nanocomposites as energy storage materials"** E -MRS Spring Meeting, Strasbourg, France, May 22-26, 2017

E. Dutu, C.T. Fleacă, F. Dumitrache, I. Morjan, A.-M. Banici, I. Sandu, A. Ilie, G. Prodan, C. Locovei **"Zn doped Tin oxide nanoparticles synthesized by laser pyrolysis: the structural and optical properties"** E -MRS Spring Meeting, Strasbourg, France, May 22-26, 2017

M. Scarisoreanu, C. Fleacă, A. Ilie, A.M. Banici, I.P. Morjan, C. Locovei, E. Dutu, L. Gavrilă Florescu, E. Vasile, I. Fort, M. Stan, F. Dumitrache, I. Morjan **"TiO<sub>2</sub> biocompatible nanoparticles decorated with noble metals for photocatalytic applications"** E -MRS Spring Meeting, Strasbourg, France, May 22-26, 2017

F. Dumitrache, M. Balas, C. Fleacă, I. Morjan, A. Dinischiotu, M.S. Stan, I. Sandu, A. Ilie, C. Locovei, I.P. Morjan, E. Vasile, O. Marinica **"Magnetic and biocompatible tests of novel iron nitride based nanoparticles synthesized by ammonia sensitized laser pyrolysis"** E -MRS Spring Meeting, Strasbourg, France, May 22-26, 2017

M. Balas, F. Dumitrache, M. A. Badea, A.L. Radulescu, C. Fleacă, C. Locovei, E. Vasile, A. Dinischiotu **"Biological responses to hybrid Fe-Si nanoparticles in Caco2 cells"** 10<sup>th</sup> Congress of Toxicology in Developing Countries (CTDC10) and 12<sup>th</sup> Serbian Congress of Toxicology (SCT12) April 18-21, S018, Belgrade, Serbia

C. Fleacă, F. Dumitrache, C. Locovei, A.-M. Banici, A. Badoi, A. Ilie, S. Banita, E. Vasile, L. Vekas **"Soft nanocomposites: Hydrogel matrix containing iron based nanoparticles synthesized by laser pyrolysis, magnetic and hyperthermic properties"** E -MRS Spring Meeting, Strasbourg, France, June 22-26, 2018

F. Dumitrache, C. Fleacă, M. Balas, I. Morjan, A. Ilie, A. Dinischiotu, E. Tanasa, M. Enculescu, C. Locovei, C. Mihailescu, O. Marinica **"Magnetic, luminescent and biocompatible tests on as synthesized or thermal treated Fe-Si hybrid nanoparticles prepared by laser pyrolysis"** E-MRS Spring Meeting, Strasbourg, France, June 22-26, 2018

E. Dutu, C. Fleacă, F. Dumitrache, C. Vlaic, M. Stich, A. Bund, I. Sandu, A. Ilie, A.-M. Niculescu, E. Vasile **"Core-shell tin-silicon oxides nanocomposites obtained by laser pyrolysis as energy storage materials"** E-MRS Spring Meeting, Strasbourg, France, June 22-26, 2018

C. Fleacă, F. Dumitrache, I. Sandu, A.-M. Banici, A. Badoi, M. Dumitru, S. Voinea **"Synthesis and characterization of Halloysite – Graphene oxide – Polypyrrole hybrid nanocomposites"** E-MRS Spring Meeting, Strasbourg, France, June 22-26, 2018

F. Dumitrache, L. Gavrilă-Florescu, C. Fleacă, A. Badoi, E. Dutu, I.P. Morjan, A. Marinoiu, E. Vasile, C. Mihailescu, **"Synthesis by laser pyrolysis and characterization of highly N doped Carbon nanopowders"** E-MRS Spring Meeting, Strasbourg, France, June 22-26, 2018

A. Ilie, M. Scarisoreanu, A.-M. Banici, C. Fleacă, F. Andrei, V. Teodorescu, L. Gavrilă-Florescu, E. Dutu, F. Dumitrache **"Laser induced pyrolysis synthesis of tunable mixed-phase W/Ti oxide nanocomposites"** E-MRS Spring Meeting, Strasbourg, France, June 22-26, 2018

A. Badoi, F. Dumitrache, C. Fleacă, I. Morjan, L. Gavrilă, I. Lungu, L. Vekas, E. Vasile **"Iron carbide core and N doped carbon shell composite nanoparticles synthesized by laser pyrolysis"** 12<sup>th</sup> European Symposium on Thermal Analysis and Calorimetry (ESTAC12) Brasov, Romania, August 27-30, 2018



A. Tiliakos, A. Badoi, A. Rotaru, C. Fleaca, F. Dumitrache **“Thermal processing driving the laser pyrolysis of polyimide precursors & structural properties of laser-induced graphene foams”** 12<sup>th</sup> European Symposium on Thermal Analysis and Calorimetry (ESTAC12) Brasov, Romania, August 27-30, 2018

I. Urzica, A.-M. Banici (Niculescu), C. T. Fleaca, F. Dumitrache, R. Pascu, S. Brajnicov, I. Sandu **“Crystallization from thin films on a hot plate: A new approach of solid surface patterning”** ECCG6 - 6<sup>th</sup> European Conference on Crystal Growth, Varna, Bulgaria, September 13-16, 2018

F. Dumitrache, C. Fleaca, M. Dumitru, E. Dutu, I.M. Morjan, C. I. Locovei, E. Tanasa **“Nanostructured films prepared from Al and F doped tin oxide nanoparticles synthesized by laser pyrolysis”** 7<sup>th</sup> Int. Symposium on Transparent Conductive Materials (TCM 2018), Platania, Crete, Greece, October 14-19, 2018

F. Dumitrache, C. Fleaca, M. Dumitru, E. Dutu, I.M. Morjan, C. I. Locovei, E. Tanasa **“Nanostructured films prepared from Al and F doped tin oxide nanoparticles synthesized by laser pyrolysis”** 7<sup>th</sup> Int. Symposium on Transparent Conductive Materials (TCM 2018), Platania, Crete, Greece, October 14-19, 2018

M. Barbuta, A. Marcu, F. Dumitrache, C. Fleaca, R. Ungureanu, A. Achim, C. Diplasu, G. Giubega, M. Serbanescu **“Laser impulse transfer measurements and real-time targeting system”** E-MRS Spring Meeting, Nice, France, June 27-30, 2019.

M. Scarisoreanu, A.G. Ilie, C. Fleaca, A.-M. Banici, I.P. Morjan, E. Dutu, I.I. Lungu, F. Dumitrache, V. Teodorescu, A. Sandulescu, I. Balint **“Noble metal-modified TiO<sub>2</sub> nanoparticles for photochemical applications”** E-MRS Spring Meeting, Nice, France, June 27 - 30, 2019

A. Ilie, M. Scarisoreanu, C. Fleaca, A.-M. Banici, L. Gavrilă-Florescu, E. Dutu, F. Dumitrache, V. Teodorescu, A. Vasile, I. Balint **“W&V Titania nanocomposite photocatalytic efficiency improvement through laser pyrolysis synthesis”** E-MRS Spring Meeting, Nice, France, June 27-30, 2019

E. Dutu, M. Scarisoreanu, A. Ilie, F. Dumitrache, C. Fleaca, L. Gavrilă-Florescu, I.P. Morjan, A. Tiliakos, A. Badoi, A.-M. Banici, A. Smarandache, E. Tanasa **“Preparation by laser pyrolysis method of carbon based active element for energy generation”** E-MRS Spring Meeting, Nice, France, June 27-30, 2019

C. Fleaca, F. Dumitrache, F. Lungu, A. Badoi, S. Banita **“Iron-based nanoparticles/halloysite nanotubes filled alginate beads for hyperthermia drug delivery”** E-MRS Spring Meeting, Nice, France, June 27-30, 2019

C. Fleaca, F. Dumitrache, M. Scarisoreanu, A. Ilie, A.-M. Banici, M. Dumitru **“Ag/Pd decorated titania nanoparticles embedded in alginate magnetic hydrogel beads or Janus membranes and their photocatalytic properties”** E-MRS Spring Meeting, Nice, France, June 27-30, 2019

P. Kupracz, A. Ilie, C. Fleaca, F. Dumitrache, K. Grochowska, Ł. Haryński, J. Wawrzyniak, K. Siuzdak **“Synthesis of heterojunction composed of titania nanotubes and iron oxide nanoparticles”** Advanced Energy Materials 2019 Conf. (AEM 2019), University of Surrey, Guildford, England, September 11–13, 2019

I. Lungu, E. Andronescu, F. Dumitrache, C. Fleaca, A. Staicu, S. Nistorescu, M. Balas, **“Potentially therapeutic nanostructures for breast cancer treatment”**, International Chemical Engineering and Materials Symposium, SICHEM 2020, Online - Microsoft Teams, Romania; September 17–18, 2020

I.I. Lungu, S. Nistorescu, M.A. Badea, A.M. Petre, A.M. Udrea, A.M. Banici, C. Fleaca, E. Andronescu, A. Dinischiotu, F. Dumitrache, A. Staicu, M. Balasa, **“In vitro study of laser pyrolysis synthesized iron oxide nanoparticles conjugated with doxorubicin”**, Sesiunea de Toamna AOSR 2020, Online-Microsoft Teams, Romania;

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Cercetator Stiintific I, Dr. Florian Dumitrache