



Florin Andrei

Data nașterii: 17/04/1994 | **Cetățenie:** română | **Gen:** Masculin | **Număr de telefon:**

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EXPERIENȚA PROFESIONALĂ

INSTITUTUL NATIONAL PENTRU FIZICA LASERILOR, PLASMEI SI RADIATIEI (INFLPR), DEPARTAMENTUL C400 – MAGURELE, ROMÂNIA

ASISTENT CERCETARE STIINTIFICA – 01/02/2021 – ÎN CURS

Preparare de filme subtiri prin ablatie laser;
Metode fotocatalitice si fotoelectrochimice;
Fotodescompunere H₂O pentru generare de hidrogen;
Generare de hidrogen si fotooxidare de compusi organici;
Cromatografie de gaze;
Spectroscopie UV-Vis;
Metode electrochimice pentru detectarea metalelor grele;
Difractie de raze X.

INSTITUTUL NATIONAL PENTRU FIZICA LASERILOR, PLASMEI SI RADIATIEI (INFLPR), DEPARTAMENTUL C400 – MAGURELE, ROMÂNIA

CHIMIST – 01/2020 – 02/2021

Preparare de filme subtiri prin ablatie laser;
Masuratori fotocatalitice si fotoelectrochimice;
Generare de hidrogen si fotooxidare de compusi organici;
Cromatografie de gaze;
Spectroscopie UV-Vis;
Masuratori electrochimice pentru detectarea metalelor grele;

INSTITUTUL NATIONAL PENTRU FIZICA LASERILOR, PLASMEI SI RADIATIEI (INFLPR), SECTIA LASERI – MAGURELE, ROMÂNIA

ASISTENT CERCETARE STIINTIFICA-STAGIAR – 11/2017 – 01/2020

Preparare de filme subtiri prin ablatie laser;
Masuratori fotocatalitice si fotoelectrochimice;
Cromatografie de gaze;
Spectroscopie UV-Vis.

EDUCAȚIE ȘI FORMARE PROFESIONALĂ

01/10/2018 – ÎN CURS Bucuresti , România

DOCTORAT Facultatea de Chimie, Universitatea din Bucuresti

Domeniu de studiu Chimie | **Lucrare de diplomă** Materiale de tip perovskit pentru aplicatii (foto)catalitice

01/10/2016 – 25/06/2018 Bucuresti , România

MASTERAT- CHIMIA MATERIALELOR AVANSATE Facultatea de Chimie, Universitatea din Bucuresti

Domeniu de studiu Chimie | **Diplomă finală** 10 |

Lucrare de diplomă Materiale hibride- Hidroxizi dublu lamelari cu anioni organici interstrat

Domeniu de studiu Chimie | Diplomă finală 8.81 |

Lucrare de diplomă Procedee de indepartare a compusilor fenolici din ape reziduale

15/09/2009 – 25/08/2013 Focsani , România
LICEU- MATEMATICA/INFORMATICA-INFORMATICA INTENSIV Liceul Tehnologic "Edmond Nicolau"

● **COMPETENȚE LINGVISTICE**

Limbă(i) maternă(e): **ROMANA**

Altă limbă (Alte limbi):

	COMPREHENSIUNE		VORBIT		SCRIS
	Comprehensiune orală	Citit	Exprimare scrisă	Conversație	
ENGLEZA	B2	B2	B2	B2	B2

Niveluri: A1 și A2 Utilizator de bază B1 și B2 Utilizator independent C1 și C2 Utilizator experimentat

● **REALIZARI PROFESIONALE**

Publicatii

Articole internationale:

F. Andrei, V. Ion, R. Birjega, I. Ghitu, M. Zamfir, A. Moldovan, V-S. Teodorescu, M. Dinescu, I-C. Marcu, N. D. Scarisoreanu. Strain engineering of epitaxial perovskite-type LaFeO₃/ BiFeO₃ heterostructures for photoelectrochemical water splitting. *Surfaces and Interfaces* 2025 106234.

N. Enea, F. Tommasi, L. Forcieri, V. Ion, **F. Andrei**, N. Calisi, N. Falsini, S. Cavalieri, A. Vinattieri. Room temperature amplified spontaneous emission in CsPbBr₃ polycrystalline thin films in transmission configuration. *AIP Advances* 2025 15, 025219.

F. Andrei, M. Dinescu, V. Ion, F. Craciun, R. Birjega, N. Scarisoreanu. Impact of structural strain in perovskite epitaxial thin films on their functional properties. *Crystals* 2023 13 (12) 1686.

A. Bonciu, **F. Andrei**, A. Palla-Papavlu. Fabrication of Hybrid Electrodes by Laser-Induced Forward Transfer for the Detection of Cu²⁺ Ions. *Materials* 2023 16 (4) 1744.

D. Manica, V. Ion, M. Sopronyi, **F. Andrei**, A. Bonciu, N. Scarisoreanu. Mechanical properties characterization for thin layers oxide (Al₂O₃), deposited by PLD-large area. *Applied Physics A: Materials Science and Processing* 2022 128 (11).

F. Andrei, I. Boerasu , M. Filipescu, Alexandra Palla. Facile modification of flexible electrodes via laser transfer. *Materials* 2022, 15, 2488.

F. Andrei, C. Craciun, A. Bonciu , S. Brajnicov, T. Tozar, M. Filipescu, A. Palla, M. Dinescu. Nitrites detection with sensors processed via matrix-assisted pulsed laser evaporation. *Nanomaterials* 2022, 12, 1138.

N. Dumitrescu, R. Ionita, R. Birjega, A. Lazea-Stoyanova, D. Ionita, G. Epurescu, M. Banici, S. Brajnicov, **F. Andrei**, A. Matei. Kaolinite thin films grown by pulsed laser deposition and matrix assisted pulsed laser evaporation. *Nanomaterials* 2022, 546.

V. Ion, A. Andrei, M. Filipescu, **F. Andrei**, N. Enea, N.D. Scarisoreanu, M. Dinescu. Optical properties of tungsten oxide (WO_x) thin film prepared by pulsed laser deposition (PLD). *Romanian Reports in Physics* 2021, 73, 507.

F. Andrei, V. Ion, R. Birjega, M. Dinescu, N. Enea, D. Pantelica, M.D. Mihai, V-A. Maraloiu, V.S. Teodorescu, I-C. Marcu, N.D. Scarisoreanu. Thickness-dependent photoelectrochemical water splitting properties of self-assembled nanostructured LaFeO₃ perovskite thin films. *Nanomaterials* 2021, 11, 1371.

F. Andrei, A. Andrei, R. Birjega, E.N. Sirjita, A.I. Radu, M. Dinescu, V. Ion, V-A. Maraloiu, V.S. Teodorescu, N.D. Scarisoreanu. The influence of the structural and morphological properties of WO₃ thin films obtained by PLD on the photoelectrochemical water-splitting reaction efficiency. *Nanomaterials* 2021, 11, 110.

F. Andrei, R. Zavoianu, I-C. Marcu. Complex catalytic materials based on the perovskite-type structure for energy and environmental applications. Materials 2020, 13, 5555.

F. Andrei, I. Boerasu, R. Birjega, A. Moldovan, M. Dinescu, V. Ion, C. Mihailescu, N.D. Scarisoreanu, V. Leca. The effects of the oxygen content on the photoelectrochemical properties of LaFeO₃ perovskite thin films obtained by pulsed laser deposition. Applied Physics A 2019, 125, 807-814.

F. Andrei, A. Vlad, R. Birjega, T. Tozar, M. Secu, I. Urzica, M. Dinescu, R. Zavoianu. Hybrid layered double hydroxides-curcumin thin films deposited via Matrix Assisted Pulsed Laser Evaporation-MAPLE with photoluminescence properties. Applied Surface Science 2019, 478, 754-761.

Prezentari Orale

IULIE 2024

F. Andrei, V. Ion, R. Birjega, N.D. Scarisoreanu, Tailoring perovskite-based thin films to boost photoelectrochemical water splitting efficiency, ROCAM 2024, OP12

E-I. Bancu, **F. Andrei**, M-R Zamfir, V. Ion, S. Iftimie, N.D. Scarisoreanu, S. Antohe; Physical properties of AZO and AZO/Ti/ AZO thin films prepared by the Pulsed Laser Deposition (PLD) technique, 22nd International Balkan Workshop on Applied Physics and Materials Science, Constanța, România

IUNIE 2024

F. Andrei, V. Ion, R. Birjega, N.D. Scarisoreanu, Complex oxide-based thin films for photoelectrochemical water-splitting applications, 2nd International Conference on Laser, Plasma and Radiation Science and Technology, Danube Delta, O35

M. Zamfir, V. Ion, A. Nitescu, I. Bancu, **F. Andrei**, N. Scarisoreanu, Complex oxides thin films integration in devices and evaluation of their functional properties, 2 nd International Conference on Laser, Plasma and Radiation – Science and Technology, ICLPR-ST, Danube Delta, O14

M. Sopronyi, N. Scarisoreanu, V. Ion, M. Zamfir, L. Stingecu, **F. Andrei**, Oxide thin films obtained on large areas through PLD, 2 nd International Conference on Laser, Plasma, and Radiation – Science and Technology, ICLPR-ST, Danube Delta, Romania, O - 21

IUNIE 2023

F. Andrei, V. Ion, N. Scarisoreanu; " Perovskites-based thin films for photoelectrochemical water-splitting applications" EMRS Spring 2023, Strasbourg, Franta, D1_11

IULIE 2022

F. Andrei, N. Enea, N. Scarisoreanu, V. Ion; "Inorganic perovskite-based devices fabricated via laser ablation techniques"; IBWAP, Constata, Romania, S1 O2

IUNIE 2022

F. Andrei, I-C. Marcu, N. Scarisoreanu; "Photoelectrochemical water splitting properties of LaFeO₃ perovskite thin films"; ICLPR-ST, Constata, Romania, O-12

MAI 2022: C. Craciun, **F. Andrei**, A. Bonciu, S. Brajnicov, M. Filipescu, A. Palla Papavlu, M. Dinescu; "Sensors processed by MAPLE technique for contaminants detection"; E-MRS Spring Meeting- 30.05.2022-03.06.2022.

SEPTEMBRIE 2021: N. Enea, V. Ion, N. D. Scarisoreanu, **F. Andrei**; "The role of strain engineering on ferroelectric perovskites thin films obtained by laser techniques"; ICPAM 13 – 23.09.2021- 30.09.2021, Sant Feliu de Guixols, Spania.

SEPTEMBRIE 2021: N. Enea, **F. Andrei**, N.D. Scarisoreanu, V. Ion; „The role of chemical doping in perovskites thin films"; EMRS – Fall Meeting (Online) – 20.09.2021 – 23.09.2021, R.O6.7.

MAI 2021: **F. Andrei**, N.D.Scarisoreanu, I-C. Marcu; "The effect of the film thickness on the photoelectrochemical properties of LaFeO₃ by pulsed laser deposition"; Students' Scientific Communications Session "The 16th Edition", Faculty of Chemistry, University of Bucharest, Romania.

SEPTEMBRIE 2019: **F. Andrei**, N.D.Scarisoreanu, N. Enea, V. Ion, A. Moldovan, I. Boerasu, R. Birjega, D. Manica, M. Dinescu; „ Production of solar hydrogen from water via photoelectrochemical route using heterostructures of bismuth and lanthanum ferrites"; EMRS FALL, Warsaw, Poland. **N.12.5**

IULIE 2018: F. Andrei, R. Zavoianu, R. Birjega, A. Vlad, M. Secu, M. Dumitru, M. Dinescu; "Synthesis, characterization and applications of layered double hydroxides with interlayer organic dyes"; International School on Lasers in Materials Science – SLIMS, S. Servolo Island, Venice, Italy.

MAI 2018: F. Andrei, R. Zavoianu; "Nanocomposites-layered double hydroxides thin films with organic interlayer anions for heavy metal detection"; Students' Scientific Communications Session "The 14th Edition", Faculty of Chemistry, University of Bucharest, Romania.

Postere

IUNIE 2024

■ E-I. Bancu, **F. Andrei**, M-R. Zamfir, V. Ion, S. Iftimie, N. D. Scarisoreanu, S. Antohe, Physical properties of AZO thin films prepared by Pulsed Laser Deposition (PLD) technique, 2nd International Conference on Laser, Plasma and Radiation Science and Technology, Danube Delta

■ V. Ion, I.E. Bancu **F. Andrei**, L.M. Stingescu N. D. Scarisoreanu, Polycrystalline Terfenol-D thin films grown by pulsed laser, 2nd International Conference on Laser, Plasma and Radiation Science and Technology, Danube Delta, Romania, P3.11

■ V. Ion, **F. Andrei**, N. D. Scarisoreanu, The role of rare earth Y-dopant on the optical properties of BiFeO₃ thin films, 2nd International Conference on Laser, Plasma and Radiation – Science and Technology, ICLPR-ST, Danube Delta, Romania, P3.17

IULIE 2022

■ V. Ion, I-M. Ghitu, L-M. Stingescu, A. Andrei, **F. Andrei**, ND. Scarisoreanu; "THIN FILM OF OXIDIZED TERFENOL-D OBTAINED BY PULSED LASER ABLATION"; 20th International Balkan Workshop on Applied Physics and Materials Science, IBWAP2022, S2 P8

IUNIE 2022

■ **F. Andrei**, LG. Carpen, V. Satulu, E. Matei, G. Dinescu, T. Acsente, N. Scarisoreanu; "Plasma assisted thermal oxidation of W foils for photoelectrochemical water-splitting applications"; ICLPR-ST, P6.02

SEPTEMBRIE 2021

■ V. Ion, N. Enea, A. Andrei, **F. Andrei**, V. Dinca, N.D. Scarisoreanu; "The properties of Polymers and piezoelectric heterostructure obtained by PLD and MAPLE"; E-MRS Fall Meeting, S.P1.16

■ V. Ion, N. Enea, A. Andrei, **F. Andrei**, V. Dinca, N.D. Scarisoreanu; "Thin films of conductive polymers for the cross street pollutants detection, obtained by MAPLE technique"; E-MRS Fall Meeting, S.P1.15

SEPTEMBRIE 2019

■ **F. Andrei**, N.D.Scarisoreanu, N. Enea, V. Ion, A. Moldovan, I. Boerasu, R. Birjega, D. Manica, M. Dinescu; "Bismuth ferrite thin films as photocatalyst for solar water splitting"; EMRS FALL, Warsaw, Poland; **N.P11.14**

SEPTEMBRIE 2018:

■ N.D. Scarisoreanu; **F. Andrei**; V. Ion; R. Birjega; M. Dinescu; V. Teodorescu; "Structural, optical and photocatalytic properties of BiFeO₃/LaFeO₃ epitaxial heterostructures", P: Epitaxial oxide films for electronic applications; E-MRS 2018 FALL MEETING conference, Warsaw, Poland- P.7.5

IULIE 2018:

■ **F. Andrei**, R. Zavoianu, R. Birjega, A. Vlad, S. Brajnicov, M. Dinescu; "Drug release properties of layered double hydroxides-curcumin thin films manufactured by laser ablation"; Laser Ignition Summer School 2018, Sibiu, Romania.

■ **F. Andrei**, A. Vlad, R. Birjega, A.Matei, V.C. Dinca, M. Secu, S. Brajnicov, A. Rotaru, V. Marascu, M. Dumitru, M. Dinescu, R. Zavoianu; „ Synthesis, characterization and applications of layered double hydroxides with interlayer organic dyes "; International School on Lasers in Materials Science – SLIMS, S. Servolo Island, Venice, Italy.

IUNIE 2018

■ **F. Andrei**, A. Vlad, R. Birjega, A. Matei, V.C. Dinca, M. Secu, S. Brajnicov, A. Rotaru, V. Marascu, M. Dumitru, M. Dinescu, R. Zavoianu; „Hybrid layered double hydroxides curcumin thin films deposited via MAPLE with fluorescence and drug delivery properties”; E-MRS 2018 SPRING MEETING conference, Strasbourg, France- **X.PII.24**

■ N. D. Scarisoreanu, F. Craciun, **F. Andrei**, A. Andrei, V. Ion, R. Birjega, M. Dinescu; „Enhancing the multifunctionality of thin films through complex engineered nanoscale phases/nanodomains”; E-MRS 2018 SPRING MEETING conference, Strasbourg, France-**X.PII.31**

■ N. D. Scarisoreanu, F. Craciun, **F. Andrei**, A. Andrei, V. Ion, R. Birjega, M. Dinescu; „Enabling multifunctionality of laser processed nanostructures through complex ensembles of chemical pressure and epitaxial strain”; E-MRS 2018 SPRING MEETING conference, Strasbourg, France- **K.PII.45**

■ A. Ilie, M. Scarisoreanu, A.M. Banici, C. Fleaca, **F. Andrei**, V. Teodorescu, L. G. Florescu, E. Dutu, F. Dumitrache; "Laser induced pyrolysis synthesis of tunable mixed-phase W/Ti oxide nanocomposites"; E-MRS 2018 SPRING MEETING conference, Strasbourg, France- **X.PII.25**

Premii Internationale

MAI 2022

Diploma de excelenta si doua medalii (aur si argint) in cadrul "European Exhibition of Creativity And Innovation-EUROINVENT" pentru inventia brevetata:

N.D. Scarisoreanu, **F. Andrei**, A. Andrei, N. Enea, V. Ion. "Fabrication of WO₃ thin films with enhanced photoelectrochemical efficiencies in alkaline solution"; EUROINVENT 2022.

MAI 2021

Diploma de excelenta obtinuta in cadrul "European Exhibition of Creativity And Innovation-EUROINVENT" pentru inventia brevetata:

F. Andrei, N.D. Scarisoreanu, V. Ion, M. Dinescu; "Heterostructures based on inorganic perovskites for photoelectrochemical applications"; EUROINVENT 2021.

IUNIE 2018

Locul 1 "The best poster of symposium X" pentru lucrarea:

■ **F. Andrei**, A. Vlad, R. Birjega, A. Matei, V.C. Dinca, M. Secu, S. Brajnicov, A. Rotaru, V. Marascu, M. Dumitru, M. Dinescu, R. Zavoianu; „Hybrid layered double hydroxides-curcumin thin films deposited via MAPLE with fluorescence and drug delivery properties”; E-MRS 2018 SPRING MEETING conference, Strasbourg, France- poster X.PII.24

Premii Nationale

MAI 2021

Locul 2 obtinut la prezentarea orala:

■ **F. Andrei**, N.D. Scarisoreanu, I-C. Marcu; "The effect of the film thickness on the photoelectrochemical properties of LaFeO₃ by pulsed laser deposition"; Students' Scientific Communications Session "The 16th Edition", Faculty of Chemistry, University of Bucharest, Romania.

MAI 2018

Locul 4 obtinut la prezentarea orala:

■ **F. Andrei**, R. Zavoianu; "Nanocomposites-layered double hydroxides thin films with organic interlayer anions for heavy metal detection", Students' Scientific Communications Session "The 14th Edition", Faculty of Chemistry, University of Bucharest.

Brevete

N.D. Scarisoreanu, **F. Andrei**, A. Andrei, N. Enea, V. Ion; "Fabrication of WO₃ thin films with enhanced photoelectrochemical efficiencies in alkaline solution"; A00583/27.09/2021.

F. Andrei, N.D. Scarisoreanu, V. Ion, M. Dinescu; "Heterostructures based on inorganic perovskites for photoelectrochemical applications"; A00830/ 02.12.2019.

Capitole de carte

F. Andrei, T. Tiliakos, M. Scarisoreanu, N. Scarisoreanu; "Advanced laser methods for synthesizing photocatalysts"; Springer; 2021; 978-3-030-77370-0