







PERSONAL INFORMATION

Catalin Marian DUCU



-  University of Pitesti
-  0040348453102  0040727356195
-  catalin.ducu@upit.ro, globalresearch.ltd@gmail.com
-  www.upit.ro, www.capsio.eu
-  catalinducu@yahoo.com

Sex M | Date of birth 22/01/1969 | Nationality Romanian

WORK EXPERIENCE

- Oct.1993 - Oct.1998 **Physicist and Scientific Researcher**
 Institute for Nuclear Research, Mioveni, Romania

 - Non-destructive testing of materials by ultra-acoustic and eddy currents methods
 - Solid state physics
 - Interaction of plasma with matter

- Oct.1998 - Oct.2004 **Assistant professor, Lecturer**
 Business or sector Nuclear research
 University of Pitesti, Pitesti, Arges, Romania

 - Theoretical Physics
 - Solid State Physics
 - Structural Analysis

- Oct.2004 - Dec.2014 **Scientific researcher III, Head of department**
 Business or sector Higher education
 University of Pitesti - Research Center for Advanced Materials, Pitesti, Arges, Romania

 - Solid State Physics
 - X-Ray Diffraction
 - X-Ray Spectrometry

- Oct.2015 - Present **University Lecturer**
 Business or sector Research
 University of Pitesti, Faculty of Mechanics and Technologies, Department of Manufacturing and Industrial Management

 - Materials Characterization
 - Science and Engineering of Materials
 - Technology of Materials
 - Techniques of Non-destructive Testing

- 2016 - Present **Head of department**
 Business or sector Higher Education
 University of Pitesti - Regional Research Center for Innovative Materials, Processes and Products, Pitesti, Arges, Romania

 - Solid State Physics
 - X-Ray Diffraction
 - Small Angle X-Ray Scattering
 - Electron Microscopy

Business or sector Research

EDUCATION
AND TRAINING

- 1987-1993 **Bachelor's degree - level 6**
University of Bucharest, Faculty of Physics, Bucharest, Romania
- Solid State Physics
- 2002 - 2003 **Postgraduate Diploma - level 7**
University of Bucharest, Faculty of Physics, Bucharest, Romania
- The use of radioactive isotopes
- 2003 - 2012 **PhD - level 8**
University of Bucharest, Faculty of Physics, Bucharest, Romania
- X-ray diffraction studies and complementary techniques of thin films and surface coatings with applications in advanced technologies

 PERSONAL
SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	B2	B2	C1
Replace with name of language certificate. Enter level if known.					
French	A2	A2	A2	A2	A2
Replace with name of language certificate. Enter level if known.					

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

Communication skills ▪ good communication skills gained through my experience as project manager

Organisational / managerial skills ▪ leadership (currently responsible for a team of 14 people)

Job-related skills ▪ good skills in theoretical and experimental physics (more than 24 years of experience in physics and materials science research field)

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Levels: Basic user - Independent user - Proficient user
[Digital competences - Self-assessment grid](#)

Replace with name of ICT-certificate(s)

- good command of office suite (word processor, spread sheet, presentation software)
- good command of photo editing software gained as an amateur photographer

Other skills ▪ extraction technologies for plant extract (supercritical fluid extraction, microwave

- assisted extraction, ultrasonically assisted extraction, hydro-distillation)
- photography

ADDITIONAL INFORMATION

- Publications
 - 44 ISI papers
 - RG Score 25.69
 - *h*-index 8 (ISI web of science core collection)
- Citations
 - 345 Citations
- Projects
 - More than 30 projects as responsible

ANNEXES

- 10 relevant publications
1. An analytical solution for the estimate of the mean crushing force of structures with polygonal and star-shaped cross-sections subjected to axial load, Tabacu, S; Ducu, C, INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES, Volume: 161 Article Number: UNSP 105010, Published: OCT 2019, DOI:10.1016/j.ijmecsci.2019.105010, Accession Number: WOS: 000496863500007, IF = 4.134 (2018)
 2. Structural Characterization of ZnO and Al Doped ZnO Powders Synthesis in Aqueous Solutions, Topala, CM; Plaiasu, AG; Ducu, CM; Moga, SG, REVISTA DE CHIMIE, Volume: 70 Issue: 9 Pages: 3232-3235, Published: SEP 2019, Accession Number: WOS: 000489958900030, IF = 1.605 (2018)
 3. Phytosynthesis of gold and silver nanoparticles enhance in vitro antioxidant and mitostimulatory activity of Aconitum toxicum Reichenb. rhizomes alcoholic extracts, Sutan, NA, Manolescu, DS, Fierascu, I, Neblea, AM, Sutan, C, Ducu, C, Soare, LC, Negrea, D, Avramescu, SM, Fierascu, RC, MATERIALS SCIENCE & ENGINEERING C-MATERIALS FOR BIOLOGICAL APPLICATIONS, Volume: 93, Pages: 746-758, DOI: 10.1016/j.msec.2018.08.042, DEC 1 2018, Accession Number: WOS:000447569400071, IF = 5.08 (2018)
 4. Experimental testing and numerical analysis of FDM multi-cell inserts and hybrid structures, Tabacu, S, Ducu, C, THIN-WALLED STRUCTURES, Volume: 129, Pages: 197-212, DOI: 10.1016/j.tws.2018.04.009, AUG 2018, Accession Number: WOS:000438000200015, IF = 3.488 (2018)
 5. Chemical Redistribution and Microstructural Evolution of ODS Fe-Cr Powders During Mechanical Alloying, Stanciulescu, M, Abrudeanu, M, Ducu, C, Plaiasu, AG, REVISTA DE CHIMIE, Volume: 69, Issue: 2, Pages: 495-498, FEB 2018, Accession Number: WOS:000427327700043, IF = 1.605 (2018)
 6. Composite biocompatible hydroxyapatite-silk fibroin coatings for medical implants obtained by Matrix Assisted Pulsed Laser Evaporation, Miroiu, FM, Socol, G, Visan, A, Stefan, N, Craciun, D, Craciun, V, Dorcioman, G, Mihailescu, IN, Sima, LE, Petrescu, SM, Andronie, A, Stamatina, I, Moga, S, Ducu, C, MATERIALS SCIENCE AND ENGINEERING B-ADVANCED FUNCTIONAL SOLID-STATE MATERIALS, Volume: 169, Issue: 1-3, Pages: 151-158, Special Issue: SI, DOI: 10.1016/j.mseb.2009.10.004, MAY 25 2010, Accession Number: WOS:000278588700029, IF = 3.507 (2018)
 7. Stress and texture in titanium nitride thin films by X-ray diffraction techniques, Ducu, C, Moga, S, Negrea, D, Malinovschi, V, Balaceanu, M, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, Volume: 12, Issue: 5, Pages: 1078-1082, MAY 2010, Accession Number: WOS:000279165400017, IF = 0.588 (2018)
 8. Study about sorption in sponge and powder titanium of hydrogen isotopes obtained from a cryogenic distillation process, Vasut, F, Bidica, N, Stefanescu, I, Bornea, A, Preda, A, Zamfirache, M, Ducu, C, RENEWABLE ENERGY, Volume: 33, Issue: 2, Pages: 216-220, DOI: 10.1016/j.renene.2007.05.007, FEB 2008, Accession Number: WOS:000252173300008, IF = 4.9 (2017)
 9. Pulsed laser deposition of co-based Tailored-Heusler alloys, Grigorescu, CEA, Valerio, E, Monnereau, O, Tortet, L, Argeme, L, Pavelescu, G, Manea, SA, Ducu, C, Malinovski, A, Trodahl, HJ, Bittar, A, Strickland, N, Notonier, R, Branford, WR, Autric, M, APPLIED SURFACE SCIENCE, Volume: 253, Issue: 19, Pages: 8102-8106, DOI: 10.1016/j.apsusc.2007.02.133, JUL 31 2007, Accession Number: WOS:000249020500091, IF = 4.439 (2017)
 10. Study of carbon steel corrosion layer by X-ray diffraction and absorption methods,

10 research projects as
coordinator / responsible

- Malinovschi, V, Ducu, C, Aldea, N, Fulger, M, JOURNAL OF NUCLEAR MATERIALS, Volume: 352, Issue: 1-3, Pages: 107-115, DOI: 10.1016/j.jnucmat.2006.02.044, JUN 30 2006, Accession Number: WOS:000238773000018, IF = 2.447 (2017)
1. Extinderea activitatilor si facilitatilor laboratorului de analize cu radiatii X pt. evaluarea si certificarea produselor si deseurilor, in conformitate cu directivele Uniunii Europene-ROHS, WEEE, ELV, CEEX-M4-C2-6193, Director de proiect, 2006
 2. Senzori optici nanostructurati pentru detectia avansata de gaze, CEEX Modulul 1, Proiect nr. 6376/2006, Responsabil proiect, 2006
 3. Studiul comparativ al calitatii straturilor nanostructurate de carbon depuse prin metodele: arc termoionic in vid (TVA) arc catodic si pulverizare magnetron, CEEX Modulul 1, Proiect nr. 9396/2006, Responsabil proiect, 2006
 4. Cercetari avansate privind mecanismul durificarii si al stabilitatii la cald a otelurilor tip maraging, CEEX Modulul 1, Proiect nr. 1057/2006. Responsabil proiect, 2006
 5. Cercetarea și dezvoltarea unui reactor membrană pentru producerea hidrogenului ultrapur utilizabil in alimentarea pilelor de combustie, PNCDI 2, Contract 21004/2007, Responsabil proiect, 2007
 6. Tehnologii inovative destinate imbunatatirii proprietatilor de suprafata ale materialelor metalice, utilizate in productia de automobile, PNCDI 2, Contract 71038/2007, Director de proiect, 2007
 7. Materiale noi, din compusi intermetalici, folosite ca tinte de iradiere pentru sursele gama de iridiu si cobalt, utilizate in industrie si medicina, PNCDI 2, Contract 71141/2007, Responsabil proiect, 2007
 8. Materiale noi, din compusi intermetalici, folosite ca tinte de iradiere pentru sursele gama de iridiu si cobalt, utilizate in industrie si medicina, PNCDI 2, Contract 71141/2007, Responsabil proiect, 2007
 9. Proiect integrat de dezvoltare a unor tehnologii dedicate tratamentelor medicale avansate, Cod: Cod PN-III-P1-1.2-PCCDI-2017-0728 Contract 63PCCDI/2018, Responsabil proiect, 2018
 10. Materiale avansate si tehnologii laser/plasma de procesare pentru energie si depoluare: cresterea potentialului aplicativ si al interconectarii stiintifice in domeniul eco-nanotehnologiilor, Cod: Cod PN-III-P1-1.2-PCCDI-2017-0755 Contract 46PCCDI/2018, Responsabil proiect, 2018

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