

CURRICULUM VITAE

PERSONAL INFORMATION

Liviu-Cristian MATACHE

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📅 **Date of birth** 12 November 1978 | **Nationality** Romanian

WORK EXPERIENCE

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|-------------------------------|---|
| May 2024 – present | <p>Vice Dean for International Relations / Faculty of Integrated Armament Systems, Military Engineering and Mechatronics</p> <p>Military Technical Academy, Bucharest (Romania)</p> <p>International cooperation and academic activities in the military and civilian field</p> <p>Business or sector Military research and academic</p> |
| February 2024 – May 2024 | <p>University Professor / Mechatronics and Integrated Armament Systems / Armament Systems Engineering and Mechatronics Department</p> <p>Military Technical Academy, Bucharest (Romania)</p> <p>Teaching, scientific research and academic activities in the military field</p> <p>Business or sector Military research and academic</p> |
| December 2021 – February 2024 | <p>Head of project management and quality assurance department</p> <p>Military Technical Academy, Bucharest (Romania)</p> <p>Management, research and academic activities in the military field</p> <p>Business or sector Military research and academic</p> |
| May 2021 – December 2021 | <p>Head of technological development center</p> <p>Military Technical Academy, Bucharest (Romania)</p> <p>Management, research and academic activities in the military field</p> <p>Business or sector Military research and academic</p> |
| December 2019 – May 2021 | <p>Head of project management and quality assurance department</p> <p>Military Technical Academy, Bucharest (Romania)</p> <p>Management, research and academic activities in the military field</p> <p>Business or sector Military research and academic</p> |
| November 2018 – November 2019 | <p>Scientific researcher 2nd degree</p> <p>Military Technical Academy, Bucharest (Romania)</p> <p>Research and academic activities in the military field</p> <p>Business or sector Military research and academic</p> |
| May 2009 – October 2018 | <p>Head of Explosive Department</p> |



	Ministry of National Defence - Scientific Research Center for CBRN Defense and Ecology /METRA, Bucharest (Romania)
	Management, testing and research activities in the military field
	Business or sector Military research
November 2004 – May 2009	Scientific researcher Ministry of National Defence – Military Equipment and Technologies Research Agency (METRA) Research, tests and evaluation activities Business or sector Military research
August 2002 – November 2004	Specialist officer Ministry of National Defence – Military Firing Range for Test and Evaluation of Munitions Organisation and execution of testing and evaluation of armament and munition Business or sector Military research

EDUCATION AND TRAINING

2003 – 2010	PhD Military Technical Academy, Bucharest (Romania) Contribution to the study of air shock waves generated by weapon systems on firing	Post-university
2006	Formation and improvement course in the Management of the research-development projects from the national defence system University of National Defence “Carol I”, Bucharest (Romania)	Post-university
2002 - 2004	Master degree Military Technical Academy, Bucharest (Romania) Munitions and Explosives Systems Engineering	Post-university
1997 - 2002	Officer Engineer Military Technical Academy , Bucharest (Romania) Mechanical engineer in ammunition, rocket and explosives	University
2014	Expert training Organization for the Prohibition of Chemical Weapons, Pribram (Czech Republic) Detection of Chemical Warfare Agents and related compounds, risk management and actions to be taken in Chemical Defense based on expertise	

PERSONAL SKILLS

Mother tongue(s)	Romanian
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Other language(s)

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
B2	B2	B2	B2	B2

English

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

Books

1. **L.C. Matache**, A.N. Rotariu, T. Homutescu, F. Dirloman, Simularea numerică în rezolvarea problemelor de balistică interioară, 2023, ISBN 978-973-640-339-2, 171 p.
2. **L.C. Matache**, A.N. Rotariu, Simularea numerica a fenomenelor dinamice cu viteze mari de deformare. Aplicatii de balistica terminală, 2021, ISBN 978-973-640-328-6, 138p.
3. A.N. Rotariu, **L.C. Matache**, Metode de calcul în balistica interioară. București, Editura Academiei Tehnice Militare, 2015, ISBN 978-973-640-241-8. 160 p.
4. G.B. Pulpea, D. Pulpea, **L.C. Matache**, Sisteme pirotehnice de mascare, 2019, ISBN 978-973-640-297-5.
5. M.V. Cîrmaci, **L.C. Matache**, Proiectarea sistemelor de armament: aplicații în balistica interioară și tranzițională. București, Editura Academiei Tehnice Militare, 2010, ISBN 978-973-640-192-3.

2023 HABILITATION THESIS

Military Technical Academy, Bucharest (Romania)

Numerical simulation research of internal ballistics and terminal ballistics phenomena involving high-speed dynamic transformations

Other competences

1. Scientific applications: AutoCad, MathCad, Matlab, Fluent, LS-Dyna, SolidWorks;
2. Software: Visual Basic, C#, Visual C++

Experience in national/ international projects

Program/Project	Period
Metode inverse de calcul în balistica interioară și îmbunătățirea metodelor numerice existente (RECBALL)	2023 – 2026
Lovitură reactivă în tandem EFP/TB pentru lansatoare portative	2022 – 2024
Combustibil compozit cu impact redus asupra mediului pentru sisteme propulsive nederijate	2022 – 2024
Încărcături de pulbere de azvârlire/propergol solid de mare energie obținute prin fabricație aditivă	2022 – 2024
Simulator complex pentru dezvoltarea, testarea și validarea metodelor și mijloacelor de reacție, specifice forțelor de intervenție, în cazul amenințărilor și riscurilor asimetrice care se produc în zone urbane	2021 – 2023
Blindaj suplimentar multistrat cu plăci groase perforate oblic destinat contracarării amenințărilor cinetice de calibru mic	2020 – 2022
Casti de protecție echipate cu componente de amortizare din materiale poroase imbibate cu nanofluid	2020 – 2022
Sisteme de distrugere cu explozivi pentru neutralizarea sub apă	2019 – 2022

a dispozitivelor explozive	
Concept de componentă de luptă exploziv-fugasă cu efect crescut (BEHEWC)	2017 – 2018
Sistem cumulativ diedric flexibil pentru tăierea sub apă a structurilor metalice (FlexMetCut)	2017 – 2018
Sistem de protecție împotriva exploziei, agenților chimici și biologici, destinat echipării clădirilor (DOORANTIEX)	2016 – 2018
Lovitură termobarică pentru aruncătorul de proiectile reactive nedirijate cal. 122 mm	2015 – 2018
Program/Project	Period
„Studii doctorale și postdoctorale Orizont 2020: promovarea interesului național prin excelență, competitivitate și responsabilitate în cercetarea științifică fundamentală și aplicată românească” - Contract POSDRU/159/1.5/S/140106 – 2014-2015 – postdoctorand	2015-2016
Explosion protection system to equip vehicles (CREWPROTECT)	2014 – 2017
Structuri compozite modulare pentru protecția împotriva efectelor complexe ale dispozitivelor explozive improvizate (IEDPROTECT)	2014 – 2017
Structuri compozite hibride simulatoare de corp uman utilizate pentru evaluarea impactului dinamic în medii cu potențial de risc ridicat (HYBRIDSIM)	2014 – 2017
Complet de neutralizare a munițiilor nefuncționate	2014 – 2015
Thermobaric rocket for RPG-7	2014 – 2015
Composite structures resistant at dynamic loadings applied with high deformation speeds used in the field of collective protection (HEAMIL)	2012-2015
Explosive device for breaching operation	2010 – 2014
Contract nr. 071/2001 in the frame of MENER programme	2002-2004
Contract nr. 1635/2002 in the frame of RELANSIN programme	2002-2005
Contract nr. 1777/2003 in the frame of RELANSIN programme	2003-2005
Contract nr. 21R/2005 in the frame of SECURITATE programme	2005
Contract nr. 13/2006 in the frame of CEEX programme	2006-2008
Contract nr. 21/2006 in the frame of CEEX programme	2006-2008
Contract nr. 118/2006 in the frame of CEEX programme	2006-2008
Contract nr. 46/2007 in the frame of CEEX programme	2007-2009
NATO SfP-982063 „Management of Security Related R&D in Support of Defence Industrial Transformation”	2007-2009
Intelligent infantry munition	2005
Hand-held antitank rocket system	2006
Video-output night aiming modular device	2007
Modern method of approaching firing tables	2007
Lighting firings cal. 81 mm and 120 mm with electronic fuses FET-1	2008