

CURRICULUM VITAE

Personal information

Name, Surname:	Lazăr, Mihai
Researcher unique identifier(s) (ORCID, Researcher ID etc.):	Brainmap code: U-1700-039N-8427 WoS Researcher ID: AAD-6581-2022
URL for personal website (if case):	N/A

Education

Year	Faculty/department - University/institution - Country
2023	Habilitation thesis – Domain of PhD studies: Medicine (OMS Nr.6346/26.09.2023)
2016	Postdoctoral degree , Carol Davila University of Medicine and Pharmacy, Bucharest – Romania (UMFCD)
2012	Ph.D. : “Correlations between the pathophysiological and radio-imaging characteristics of the hepatic circulation in acute and chronic hepatopathies”, Carol Davila University of Medicine and Pharmacy, Bucharest – Romania (UMFCD)
2013	Senior Specialist in Radiology and Medical Imaging – Ministry of Health – Romania
2009	Competency certificate in magnetic resonance imaging
2008	Competency certificate in computed tomography
2007	Specialist in Radiology and Medical Imaging – Ministry of Health – Romania
2002	Medical Doctor (MD) General Medicine – Faculty of Medicine, Carol Davila University of Medicine and Pharmacy Bucharest – Romania

Positions - current and previous

(Academic sector/research institutes/industrial sector/public sector/other)

Year	Job title – Employer - Country
Academic positions	
2023-to date	Associate Professor, Pathophysiology , Faculty of Medicine, Carol Davila University of Medicine and Pharmacy, Bucharest – Romania
2013-2023	Lecturer, Pathophysiology , Faculty of Medicine, Carol Davila University of Medicine and Pharmacy, Bucharest – Romania
2007-2013	Assistant Lecturer, Pathophysiology , Faculty of Medicine, Carol Davila University of Medicine and Pharmacy, Bucharest – Romania
Medical positions	
2013-to date	Senior radiologist – Radiology and Medical Imaging . National Institute for Infectious Diseases “Prof.Dr. Matei Bals”, Bucharest – Romania
2007-2013	Specialist radiologist – Radiology and Medical Imaging . National Institute for Infectious Diseases “Prof.Dr. Matei Bals”, Bucharest – Romania
2003-2007	Resident radiologist – Radiology and Medical Imaging . National Institute Fundeni,

	Bucharest – Romania
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Career breaks (if case)

Year	Reason
N/A	N/A

Project management experience

Year	Project title - Role – Funder – Budget – link to project webpage
2008-2011	Identification of lipid and glucydic patterns by modern diagnosis techniques in children and adults with HIV infection under ARV treatment and correlation with the cardiovascular risk. Role: investigator. Budget:634966 RON.Grant number 3034/2008, PNCDI II/2008, SLD-ART.
2008-2011	Randomised, placebo-controlled, multi-centre study to assess the efficacy and safety of eltrombopag in thrombocytopenic subjects with hepatitis C virus (HCV) infection who are otherwise eligible to initiate antiviral therapy peginterferon alfa 2a plus ribavirin) – international multicentre study. Role: investigator. ID: Enable 1 TPL103922, TPL108390
2010-2012	Development of university doctoral studies in Dental Medicine. Role in project: long term expert involved in drafting a new curriculum for the doctoral studies. Budget: 330000EUR. Project ID:POSDRU/21/1.5/G/39679 Link
2010-2013	Formation and development of aptitudes and interest for theoretical and practical scientific research applied to master study in the domain of medical sciences. Role in project: responsible for logistic activities; founding member of AASR (Academy for Advanced Studies and Research). Budget: 3.964.722 EUR, Project ID:POSDRU/86/1.2/S/64124 Link
2010-2013	Doctoral and postdoctoral programs supporting the scientific research. Role in project: general coordinator of activities. Budget: 3.987.371 EUR. Project ID:POSDRU/89/1.5/S/64109 Link
2011-2014	Excellence in research and knowledge by financing university doctoral studies. Role in project: long term expert responsible for supervising research activities. Budget: 4.277.224 EUR. Project ID: POSDRU/107/1.5/S/82839 Link
2013-2014	A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of Tenofovir Alafenamide (TAF) 25 mg QD versus Tenofovir Disoproxil Fumarate (TDF) 300 mg QD for the Treatment of HBeAg Positive, Chronic Hepatitis B, international multicentre study. Role: investigator; Protocol GS-US-320-0110)
2014-2015	Applying the research methodologies in the domain of medical science and promoting the entrepreneurial culture to facilitate the insertion in the work-market of medical students. Role in project: long term expert responsible for coordinating students activities. Project ID: POSDRU/156/1.2/G/141745 Link
2014-2015	Methodologic frame for equivalation of the formal, non-formal, and informal competencies for medical assistants without university studies. Role in project: long term expert responsible for equivalation methodology and institutional dialog. Project ID: POSDRU/155/1.2/S/141134 Link
2017-2018	Research mobility project. Role: project manager. Budget:14026 RON Project ID: PN-III-P1-1.1-MC-2017-0157.
2020-2021	Software development for automatic analyse of pulmonary lesions in patients with

	SARS-CoV-2 infection. International multicentre research project - Tencent Cloud Europe B.V., BinBox Global Services, INBI Prof. Dr. Matei Bals. Role: project responsible for partner
2023-2024	A Phase 2 Randomized, Double-blind, Placebo-controlled Trial and Open Label Extension to Evaluate the Safety and Efficacy of Deupirfenidone (LYT-100) in Post-acute COVID-19 Respiratory Disease. International multicentre study. Role: investigator. Protocol Number: LYT-100-2020-02.
2020-2021	Evaluation of efficacy and safety in utilisation of new innovative treatment protocols – ESCADEIP, national multicentre research project. Role: Key member, investigator. Buget: 2.984.815 RON. Project ID: PN3-P2-397/3.07.2020 Link

Other relevant professional experiences

(e.g. institutional responsibilities, organisation of scientific meetings, membership in academic societies, review boards, advisory boards, committees and major research or innovation collaborations, other commissions of trust in public or private sector)

Year	Description - Role
2003-to date	Member of Romanian Society of Radiology and Medical Imaging
2006-2017	CT software application workshops/trainings
2007-to date	Member of Romanian Society of Pathophysiology
2008-to date	Head of Radiology and Medical Imaging Department. National Institute for Infectious Diseases “Prof.Dr. Matei Bals”
2008-to date	Institution responsible with radiological security. National Institute for Infectious Diseases “Prof.Dr. Matei Bals”
2008-to date	Member in the Medical Council of National Institute for Infectious Diseases “Prof.Dr. Matei Bals”
2010-to date	Member of Ethic Committee. National Institute for Infectious Diseases “Prof. Dr. Matei Bals”
2010-to date	Founding member of AASR (Academy for Advanced Studies and Research)
2010-to date	Member of Steering/Organising Committee for medical congresses and conferences
2013-to date	Reviewer/guest editor for national and international papers
2014-to date	Invited speaker in over 90 national-wide courses

C.2 Track record of the last 10 years

A list of the ten most important scientific outputs (publications, patents, technologies etc).

1. Daniela Munteanu, Anca Negru, Raluca Mihailescu, Catalin Tiliscan, Ana-Maria Tudor, Mihai Lazar, Stefan Sorin Arama, Daniela Ion, Victoria Arama. Evaluation of bone mineral density and correlations with inflammation markers in Romanian HIV-positive patients undergoing combined antiretroviral therapy, *Farmacia*, 2017, Vol. 65, 1:114-9
2. Anghel AM, Niculae CM, Manea ED, Lazar M, Popescu M, Damalan AC, Bel AA, Nedelcu IM, Patrascu RE, Hristea A. The Impact of Tocilizumab on Radiological Changes Assessed by Quantitative Chest CT in Severe COVID-19 Patients. *J Clin Med*. 2022 Feb 25;11(5):1247. doi: 10.3390/jcm11051247.
3. Lazar M, Barbu EC, Chitu CE, Anghel AM, Niculae CM, Manea ED, Damalan AC, Bel AA, Patrascu RE, Hristea A, Ion DA. Mortality Predictors in Severe SARS-CoV-2 Infection. *Medicina (Kaunas)*. 2022 Jul 18;58(7):945. doi: 10.3390/medicina58070945
4. Lazar M, Barbu EC, Chitu CE, Anghel AM, Niculae CM, Manea ED, Damalan AC, Bel AA, Patrascu RE, Hristea A, Ion DA. Pericardial Involvement in Severe COVID-19 Patients. *Medicina (Kaunas)*. 2022 Aug 12;58(8):1093. doi: 10.3390/medicina58081093.

5. Lazar M, Barbu EC, Chitu CE, Tiliscan C, Stratan L, Arama SS, Arama V, Ion DA. Interstitial Lung Fibrosis Following COVID-19 Pneumonia. *Diagnostics (Basel)*. 2022 Aug 22;12(8):2028. doi: 10.3390/diagnostics12082028
6. Mihai N, Lazar M, Tiliscan C, Barbu EC, Chitu CE, Stratan L, Ganea OA, Arama SS, Ion DA, Arama V. Predictors of Liver Injury in Hospitalized Patients with SARS-CoV-2 Infection. *Medicina (Kaunas)*. 2022 Nov 23;58(12):1714. doi: 10.3390/medicina58121714
7. Dumea E, Lazar M, Barbu EC, Chitu CE, Ion DA. Pulmonary Involvement in SARS-CoV-2 Infection Estimates Myocardial Injury Risk. *Medicina (Kaunas)*. 2022 Oct 11;58(10):1436. doi: 10.3390/medicina58101436.
8. Mihai N, Tiliscan C, Visan CA, Stratan L, Ganea O, Arama SS, Lazar M, Arama V. Evaluation of Drug-Induced Liver Injury in Hospitalized Patients with SARS-CoV-2 Infection. *Microorganisms*. 2022 Oct 17;10(10):2045. doi: 10.3390/microorganisms10102045
9. Tuculeanu, G.; Barbu, E.C.; Lazar, M.; Chitu-Tisu, C.E.; Moisa, E.; Negoita, S.I.; Ion, D.A. Coagulation Disorders in Sepsis and COVID-19—Two Sides of the Same Coin? A Review of Inflammation– Coagulation Crosstalk in Bacterial Sepsis and COVID-19. *J. Clin. Med.*2023, *12*, 601. <https://doi.org/10.3390/jcm12020601>
10. Lazar, M.; Sandulescu, M.; Barbu, E.C.; Chitu-Tisu, C.E.; Andreescu, D.I.; Anton, A.N.; Erculescu, T.M.; Petre, A.M.; Duca, G.T.; Simion, V.; et al. The Role of Cytokines and Molecular Pathways in Lung Fibrosis Following SARS-CoV-2 Infection: A Physiopathologic (Re)view. *Biomedicines* 2024, *12*, 639. <https://doi.org/10.3390/biomedicines12030639>

C.3 Narrative CV

A narrative summarizing which work has had the greatest importance and impact.

The scientific achievements are demonstrated by the 51 published scientific papers (37 from them ISI papers with 8 publications in Q1/Q2), a Hirsh Index of 9 in Web of Science, 57 presentantions in national and international congresses and conferences, invited guest editor position for *Biomedicines* (Q1 paper).

Regarding the latest developments in healthcare regarding COVID-19, the latest research projects focused on:
1.the development of a medical software (AI) for automatic lung lesion evaluation in SARS-CoV-2 patients in coloboration with Tencent Cloud Europe B.V. and BinBox Global Services in an international muticentric study, as responsible person for a project partner.

2.the evaluation of safety and efficiency of innovative treatment and diagnosis protocols for patients with COVID-19, in coloboration with Clinical *Hospital for Infectious Diseases* and Pneumoftiziology “Dr. *Victor Babeş*” *Timisoara* (one of the partners in the present research project), involved in writing the project, creating a new lesion assesement algorithym and a novel prognostic algorithym based on advanced image processing.

The conducted research allowed:

- (a) to define the range of normality and to identify the physiological factors which influence the vascular parameters (dimension and flow velocity) and how they change the recorded baseline values;
- (b) to characterize the morphological and functional changes of the hepatic circulation, to establish an early diagnosis of cirrhosis (based on flow velocities and flow pattern changes), and to monitor its progression (considering hepatic artery velocities and flow pattern in hepatic vessels);
- (c) to accurately evaluate the liver steatosis – a new ultrasound score for liver steatosis was developed, with over 0,82 sensitivity and over 0,92 specificity compared with the liver biopsy, which is currently used in general practice;
- (d) the identification of ultrasound markers useful in early diagnosis of asymptomatic chronic hepatitis and in differentiation of B and C chronic hepatitis;

(e) the first study comparing chronic hepatitis patients to controls regarding soft tissue body composition changes, identifying the factors associated with reduced fat mass, lean mass and bone mineral density, demonstrating also the impact of the antiviral treatment on body composition;

(f) demonstration of the impact of molecular imaging techniques in characterization of liver affections (changes of myo-inositol and choline in the chronic hepatitis, liver cirrhosis and in the occurrence of hepatic encephalopathy).

The research conducted in the evaluation of the patients with HIV infection included:

(a) the first study in Romania to investigate adipokine dysregulation (hypoadiponectinemia in men and hyperleptinemia in women) in association with HIV metabolic abnormalities during combination antiretroviral therapy (cART) and demonstrated a significant prevalence of IR in a young nondiabetic caucasian population with HIV infection.

(b) the first study in Romania to demonstrate the utility of bone density scan (DXA) in HIV infected patients (to explore the degree of bone loss and also to identify the changes in body composition).

(c) quantification of body composition differences in HIV-infected individuals after long-term antiretroviral therapy.

(d) identification and characterization of the risk factors associated with body composition changes in HIV-infected patients.

(e) the conducted research supports the importance of both HIV infection and cART use in body composition differences compared to healthy controls and also, argues for the relevance of assessing body composition changes in HIV-infected patients.

The most recent research conducted in the field of infectious diseases is related to SARS-CoV-2 infection included:

(a) a new quantitative assessment of lung lesions which improves the prediction algorithms compared to the semi-quantitative parameters, implemented as a standard radiological procedure in evaluating COVID-19 pneumonia in our institution. Based on this new quantitative assessment was evaluated the impact of immunomodulatory treatment in COVID-19.

(b) a new cluster evaluation algorithm for lung lesion which increases the non-survivor and overall accuracy prediction when assessing the prognosis of severe patients.

(c) a new prediction score (COV-Score) demonstrating a very good sensitivity and specificity in predicting a poor outcome at the time of admission.

(d) description and characterization of serum parameters which can be used as independent markers for the risk of death in COVID-19 patients.

(e) evaluation of the prevalence of pericardial effusions in patients with severe COVID-19, identified the risk factors/predictors for pericardial involvement, and characterized its impact on overall mortality;

(f) investigation of the myocardial injury in SARS-CoV-2 patients, and demonstrated that routine lung sectional imaging along with non-specific biomarkers (lactate dehydrogenase(LDH), D-dimers, C-reactive protein(CRP)), can provide further value in the characterization of the disease burden, including myocardial injury, thus impacting patient care;

(g) investigation of liver involvement in COVID-19 patients, presenting the type of liver injuries, risk factors, prognosis and impact in the evolution of the disease.

(h) development and optimization of a novel method in the evaluation of pulmonary fibrosis following COVID-19 pneumonia by quantitative analysis using an innovative diagnosis algorithm, identified the risk

factors for pulmonary fibrosis in patients with SARS-CoV-2 infection and characterized the impact of pulmonary fibrosis on the symptomatology of patients with COVID-19 after release from the hospital;

(i) evaluation of and characterization of particularities in SARS-CoV-2 thrombosis patients

The expertise and capacity to train and mentor young scientists and to ensure the necessary institutional cooperation is demonstrated by:

a) the involvement in 6 strategic projects regarding medical research and medical formation mentioned in the project management experience section;

b) 94 national-wide courses sustained as invited speaker in the last 10 years;

c) 17 years of experience in the didactic area - by coordinating teaching materials and lab-works on pathophysiology to third-year medical students and the pathophysiology study group.

The expertise and leadership abilities are demonstrated also by the role of Coordinator of the Department of Radiology and Medical Imaging of "Prof. Dr. Matei Bals" National Institute of Infectious Diseases in the last 15 years, conducting medical, research, didactic, logistic activities, and also maintaining a permanent dialog with the medical industry, local authorities and networking with other research and medical institutions.

22.08.2024