

CURRICULUM VITAE

1. **Family name:** Popa
2. **First names:** Gabriel
3. **Passport holder** Romania
4. **Residence** Bucharest

Institution [Date from - Date to]	Degree(s) or Diploma(s) obtained:
University Politehnica of Bucharest 10/1980 – 06/1985	BE – Bachelor of Engineering
University Politehnica of Bucharest 10/1991 – 06/1994	Doctoral Degree (Ph.D.) Certificate in Engineering
University Politehnica of Bucharest 10/2017 - present	Ph.D. Supervisor in Mechanical Engineering

5. **Language skills:** Indicate competence on a scale of 1 to 5 (1 - excellent; 5 - basic)

Language	Reading	Speaking	Writing
Romanian	1	1	1
English	1	2	2
German	3	3	3

6. **Membership of professional bodies:** Official reviewer in specialized committees for the analysis and public support of PhD thesis; The chairman of the board of directors of CNCF CFR S.A.; Member of the AFER Board; Chairman of the AFER Quality Integrity Commission; Scientific Adviser at UPB Scientific Bulletin, Series D: Mechanical Engineering; Member of the Committee for Information and Scientific Technology at the Railway Club Conference; Initiating Member of the Technological Platform for Transport Research established at the Romanian Academy, Center for Industry and Services Economy; Member of the Bachelor's Examination Commission at the undergraduate study program Rail Vehicles; Member of the Dissertation Examination Commission for Master's Degree Programs, High Speed Rail Vehicles, Vehicle-Runway Interaction Phenomenon, Environmental Engineering and Rail Quality Management; Chairman of the Doctoral Dissertation Examination Commission at the Master's Degree Program in Environmental Engineering and Quality Management in the Railway Sector;

7. **Other skills:** the ability to work in multidisciplinary teams, active learning, critical thinking, collecting, managing and hierarchizing information, leadership, teamwork, computer literacy, project management ,management of financial resources, perseverance and determination

8. **Present position:** Professor - University Politehnica of Bucharest, Faculty of Transports, Department of Rolling Stock, Vice Dean of the Faculty of Transport.

9. **Years within the firm:** 31 years

10. **Key qualifications:**

- Professional qualification in Mechanical Engineering with 30 years of experience

- Project coordination and project management capabilities
- Experience in capacity building
- **Hands-on Government experience** in administering technical research and development programmes in the railway sector
- Experience in preparation of general and **specific tender documents for rolling stock, infrastructure and depots**
- **Procurement management** and experience with PRAG and FIDIC rules and conditions (Red and Yellow Book)

11. Professional experience

Date from - Date to	Location	Company	Position	Description
2020 to 2021	Romania/ Bucharest	European Investment Bank – EIB Mihai Frumosu 00 40 751 076 603 m.frumosu@eib.org	Rolling Stock Expert	Technical expert in the tender evaluation commission, Ministry of Transport of Romania, Railway Reform Authority Preparation of clarification answers, technical evaluation of the technical offers, drawing up the final technical report of the RE-IR tender
2019	Romania/ Bucharest	European Investment Bank – EIB Mihai Frumosu 00 40 751 076 603 m.frumosu@eib.org	Rolling Stock Expert	Technical expert in the tender evaluation commission, Ministry of Transport of Romania, Railway Reform Authority Preparation of clarification answers, technical evaluation of the technical offers, drawing up the final technical report of the RE-R tender
06.2019 – 10.2019	Georgia, Tbilisi	MC Mobility Consultants Client: ILF1, TbilisiTransport Company2	Rolling Stock Expert	Tbilisi Transport Company Feasibility Study - Suburban Rail/Metro for Eastern Agglomeration - The government of Georgia planned to improve passenger rail connections for the Eastern and Southern suburbs of Tbilisi. Improvements comprised two lines which both start near Samgori metro station in the south-east of Tbilisi: The section between Samgori and Lilo (east of Tbilisi) may be upgraded and modified for state of the art passenger suburban rail/metro. The section between Samgori and Rustavi (south-east of Tbilisi) may be upgraded and/or re-aligned, some new sections may be built and passenger access to Rustavi railway station(s) may be improved. Services comprised <ul style="list-style-type: none"> • identified rail ridership share for each alignment option and evaluate the number of potential passengers which we can be expected for suburban rail services. • identify the best solutions for increasing the attractiveness and territorial accessibility of the two railway lines, especially at the connection area with the Samgori station, but also for a good coverage of Rustavi city with high-capacity transport system. • carry out an analysis of similar projects at European level. • Assessment of rolling stock possibilities (Options analysis – metro or full rail) • Operations assessment and capacity assessment

1 ILF Stephan Moron, Stephan.moron@ilf.com,

2 Georgian Railways, Akaki Saghirashvili, Akaki.saghirashvili@railway.ge

May 2018 – 12/2019	Romania, Bucarest	MC Mobility Consultants GmbH Holger Eiletz 0043 664 103 7216 holger.eiletz@vienna-mc.com Tatjana Mirkovic 00 43 660 857 5960 tatjana.mirkovic@vienna-mc.com	Local Rolling stock Expert (EMU/DMU)	Framework agreement to support EIB advisory services (EIBAS) activities inside and outside EU-28 Lot 3: Transport Support to the Railway Reform Authority for acquisition of passenger rolling stock TA2018012 RO RP1 for regional transport <ul style="list-style-type: none"> Preparation and tendering of rolling stock <ul style="list-style-type: none"> Draft specifications Draft tender documents for supply and long-term maintenance (min. 10 years) of the rolling stock (including depot provisions) Assistance during the procurement procedure including support at tender evaluation.
2018	Romania/ Bucharest	TUV Rheiland Poland Krystian Bochenek 00 48 695 927 765 krystian	Rolling Stock Expert	Technical consultancy advice on railway traction vehicles. Technical evaluation of electric, diesel-electric and hydraulic locomotives. Drawing up /drafting of technical reports and maintenance analysis
10/2017 to present	Romania / Bucharest	University Politehnica of Bucharest, Faculty of Transports, Department of Rolling Stock	Ph.D. Supervisor in Mechanical Engineering	Scientific and Teaching activity: As a Ph.D. Supervisor, I lead 6 PhD theses. The themes of these works are: the dynamics of electric traction vehicles, the optimization of electric energy consumption, the energy management of the electric traction vehicles.
02/2015 - 12/2015	Singapore	CPG Consultants /Singapore Austrian Rail Engineering	Support to Depot Design Manager	Assessment of preliminary design in accordance with international standards (RAMS), Design Management for establishment of Preliminary Design Review Report, Technical Assistance and support in Final Design for additional stabling in the Gali Batu Depot of the Singapore Down Town Line (Metro)
10/2017 to present	Romania / Bucharest	University Politehnica of Bucharest, Faculty of Transports, Department of Rolling Stock	Professor	➤ Research areas: Railway traction, Train dynamics, Optimal train management ▪ Principal research directions: <ul style="list-style-type: none"> - Increasing the traction performance of motor railway vehicles by optimising the adjustment, command and control of the electric drive for both the common operation regime and the dynamic operation regime; - Improving the efficiency of operation of the synchronous generator in order to be able to efficiently use the AC transmission on diesel-electric vehicles; - Reducing the stress on the wheelsets and locomotive bogies to ensure the traffic safety and passengers' security;
2007-2017	Romania / Bucharest	University Politehnica of Bucharest, Faculty of Transports, Department of Rolling Stock	Associate Professor	

1997-2007	Romania / Bucharest	University Politehnica of Bucharest, Faculty of Transports, Department of Rolling Stock	Lecturer	<ul style="list-style-type: none"> - Increasing the dynamic performance of railway vehicles at high speeds by exploring the possibility of improving the quality and stability of traffic and reducing the stress on the track; - Exploitation of railway vehicles in a way that would reduce the wear based on a unique system of transmission and management installed on traction. <p>▪ Relevant scientific research topics (with direct application):</p> <ul style="list-style-type: none"> - <i>The dynamic oscillations features of the BR 185 locomotive. Dynamic study for DB.</i> - <i>Optimizing power consumption of the electric vehicle traction. Study for Romanian Railway</i> - <i>Design and structural verification of locomotive bogies using combined analytical and experimental methods. Study for SOFTRONIC S.A.</i> - <i>Contact line oscillations induced by the pantograph coupling. Study for increasing the speed of movement SNTFC.</i> - <i>Unified system for optimizing the transmission of technical data flow from vehicles.</i> - <i>Startup railway vehicles with asynchronous traction motors. Study for Romanian Railway</i> - <i>Analys of operating modes of electric motors for locomotive le 040-3400 kW</i> - <i>Stand for testing electrical machines up to 1.500 kilowatts used in railway traction. Study for REMARUL 16 FEBRUARIE CLUJ.</i> - <i>Determining the optimal operating regime of the traction motors for constant power operation of the vehicle. Study for UNICOM</i> - <i>The vertical axle loads variations of 480 series locomotives Transmontana. Study for SOFTRONIC S.A.</i> - <i>The aerodynamic resistances determined by the rolling equipment for the electric locomotive LE 060 EA 5100 KW .</i> - <i>Improving the axle drive system for the 3400 kW electric locomotive. Study for SNTFC</i> - <i>Improving the power consumption of the 5100 kW electric locomotive. Study for SNTFM</i> - <i>Influence resistance at advancing on fuel consumption for vehicles that use an internal source of energy. Study for Romanian Railway</i> - <i>Static analysis on computer for requests that appear at elements of the pantograph of type EP3. Study for SOFTRONIC.</i> - <i>Study concerning the torsion stresses on the driving axle of the Romanian Railways' 5100 kW electric locomotive. Study for SNTFM</i> - <i>Study on electrical transmission modernization of locomotive LE-040-3400kW. Study for SNTFC. Study for Romanian Railway</i> - <i>The analysis of the start up control parameters of the asynchronous electric traction motors.</i> - <i>The oscillations of an overhead contact line due to the pantograph raising</i> - <i>The analysis of the response time at the start of the vehicles equipped with asynchronous tri-phase motors. Study for Romanian Railway</i>
1990-1997	Romania / Bucharest	University Politehnica of Bucharest, Faculty of Transports, Department of Rolling Stock	Assistant Professor	
1988-1990	Romania / Bucharest	University Politehnica of Bucharest, Faculty of Transports, Department of Rolling Stock	Assistant Professor	

				<p>- <i>The check-up calculus for the locomotive's handbrake system. Study for Romanian Railway</i></p> <ul style="list-style-type: none"> ➤ Teaching activity: Licence studies – Vehicles for railway ➤ Course and Laboratory/Project application coordinator: Electric traction, Diesel traction, Traction control and control systems, Optimal train management, Railroad rolling stock, Quality control of rolling stock, ➤ Teaching activity: Master of science studies - Railway vehicles for high speeds ➤ Course and Laboratory/Project application: Economicity and safety in the operation of railway vehicles, Rail traction, ➤ Teaching activity: Master of science studies - Vehicle-track interaction phenomena ➤ Course and Laboratory/Project application: Optimization of traction vehicle operation regimes, Rail quality management ➤ Teaching activity: Master of science studies - Environmental engineering and quality management in rail transport ➤ Course and Laboratory/Project application: Quality management in railway companies, Environmental management.
1988-1990	Romania / Bucharest	Institute of Research and Design in Transport Engineering	Scientific Researcher	
1985-1988	Romania / Bucharest	Romanian Railways	Engineer	

12. Other relevant information (Publications, etc.)

a. Elaboration and publication of papers:

- **78 scientific articles published**, of which: 14 ISI indexed articles (4 articles in ISI rated journals with impact factor, 10 articles in ISI indexed proceedings), 7 articles in BDI indexed journals, 15 articles in BDI indexed proceedings, 8 articles in non-indexed specialised journals, 32 articles published in journals from symposiums and non-indexed national and international scientific conferences (10 – international conferences; 24 – national conferences); The applied research topics for all studies and analyzes are made for railway vehicles.

- 4 specialty books:

1. **Gabriel Popa**, Mădălina Dumitriu, *Managementul mediului în transportul feroviar (Environmental management in railway transport)*, ISBN 978-606-25-0266-9, Publishing House MatrixRom, Bucharest, 2016.

2. **Gabriel Popa**, Bogdan Țăruș, *Exploatarea vehiculelor de cale ferată* (Operation of railway vehicles), 353 pag, ISBN 973-685-969-X, Publishing House MatrixRom, Bucharest, 2005.
3. **Gabriel Popa**, Bogdan Țăruș, *Structuri portante pentru vehicule de cale ferată* (Load bearing structures for railway vehicles), 226 pag, ISBN 973-685-967-3, Publishing House MatrixRom, Bucharest, 2005.
4. **Gabriel Popa**, *Tracțiunea feroviară cu motoare asincrone trifazate* (Railway traction with three-phase motors), 351 pag, ISBN 973-685-968-1, Publishing House MatrixRom, Bucharest, București, 2005.

- 4 lab guides and 2 design guides.

b. Research Projects/Grants:

- 4 research projects won following a national competition, of which 1 as project manager and 3 as a representative of University Politehnica of Bucharest:

1. Grant PN-II-ID-SSA-2012-2, Contract nr. 1/30.04.2013, *Engineering processes in the field of railway vehicles, transport management, traffic and logistics - INGFER*, 2013, Project director.
2. Research project, Program PN-II-PT-PCCA-2011-3, Contract nr. 192/2012, *Solutions for improving dynamic performance and security impact of traction rail to align with the requirements of European regulations, 2012 – 2016*, Assistant Project director, UPB Project director.
3. Research project, INNOVATION Program, Contract nr.87/2007, *Stand for running, characterization and testing up to 1500 kW electrical machines used in railway traction*, 2007 – 2009, UPB Project director.
4. Research project, AMTRANS Program, Contract nr. 212 / 2003, *Modern protection and commutation system for the contact lines for electric railways*, 2003 – 2005, UPB Project director.

- 9 cooperation in research contracts for Romanian industry, as a researcher in Institute of Research and Design in Transport Engineering - ICPTT:

1. Research regarding the static and dynamic stress of the supporting structure for the LDE 1300;
2. Research regarding the use of the hydrostatic drive for diesel locomotives (100-300 Hp);
3. Strength test program for the mounted axles of the LE 060 EA;
4. Research regarding the use of the electric drives for 1000Hp locomotives;
5. Stand for mounted axles testing;
6. Researches and testing of the wheels for high speed cars;
7. Researches and testing of the DC68E intervention railway vehicle;
8. Researches and testing of car wheels;
9. Research regarding high speed at SNCFR and the project of a high speed vehicle

c. Patents:

Popa Gabriel

1. Patent, Patent Number(s): RO131961-A2/03.06.2017, entitled RAILWAY ASSEMBLY FOR LOADING/UNLOADING AND TRANSPORTING HEAVY VEHICLES TO/FROM LOW AND NORMAL PLATFORM WAGONS, coauthor.

Abstract: NOVELTY - The invention relates to a railway assembly for loading/unloading and transporting heavy vehicles to/from low or normal platform wagons. According to the invention, the assembly consists of various wagons coupled by a connection wagon, the front loading/unloading being ensured by a mobile ramp wagon provided with a low platform and double electro-hydraulic ramp or the connection wagon provided with a double electro-hydraulic ramp, the lateral loading/unloading being possible at idle, using a semipermanent modular ramp, inclusively directly from/onto the road.

2. Patent application, registration number OSIM A 2016/00868, entitled *Flow-triggered opening and control valve with MR fluid*, coauthor.

3. Patent application, registration number OSIM A 2016/00869, entitled *Variable friction damping device according to a scheduled law*, coauthor.

4. Patent application, registration number OSIM A 2016/00870, entitled *Semi-automatic system with automatic control for taking over and dissipating the impact energy in case of collision of railway vehicles*, coauthor.

d. Other activities

- Official reviewer in specialized committees for the analysis and public support of PhD thesis;
- The chairman of the board of directors of CNCF CFR S.A
- Member of the AFER Board;
- Chairman of the AFER Quality Integrity Commission;
- Scientific Adviser at UPB Scientific Bulletin, Series D: Mechanical Engineering;
- Member of the Committee for Information and Scientific Technology at the Railway Club Conference;
- Initiating Member of the Technological Platform for Transport Research established at the Romanian Academy, Center for Industry and Services Economy;
- Member of the Bachelor's Examination Commission at the undergraduate study program Rail Vehicles
- Member of the Dissertation Examination Commission for Master's Degree Programs, High Speed Rail Vehicles, Vehicle-Runway Interaction Phenomenon, Environmental Engineering and Rail Quality Management;
- Chairman of the Doctoral Dissertation Examination Commission at the Master's Degree Program in Environmental Engineering and Quality Management in the Railway Sector;
- Organization and training of training courses for the improvement of the management techniques of the authorities of the Ministry of Transport, Information Technology and Communications in Bulgaria, the Bulgarian National Infrastructure Company, the Bulgarian Railway Passenger Company, the Bulgarian Rail Freight Company and the Executive Agency of the Bulgarian Railways in the framework of the International Human Resources Planning project at the National Infrastructure Company of Bulgaria and the National Railway Company from the Operational Program for Transport 2007-2013 (title project INFRACARE AD - Bulgaria).



02.11.2021

Popa Gabriel