



Stefan Grigorean

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WORK EXPERIENCE

MECHANICAL ENGINEER – SC PADRE TON SRL – 31/07/2014 – 31/01/2017 – BOTOSANI, ROMANIA

CHIEF ENGINEER - Automotive Maintenance Workshop

Technical Oversight & Diagnostics

- Perform and supervise **diagnosis of mechanical issues** in vehicles (engine, transmission, suspension, brakes, etc.)
- Provide **technical guidance** for complex repairs or modifications
- Approve final diagnostics and repair strategies before execution

Team Supervision & Training

- Lead and supervise a team of **mechanics and technicians**
- Assign tasks based on expertise and workload
- Train junior staff or new hires in workshop procedures and best practices
- Ensure adherence to **safety protocols** and workshop standards

Quality Control

- Inspect completed repairs and services for quality and accuracy
- Implement **standard operating procedures (SOPs)** for mechanical work
- Resolve any quality issues or customer complaints related to mechanical repairs

Workshop & Workflow Management

- Plan and manage **daily operations** and workflow in the mechanical section
- Optimize use of **equipment, tools, and labor** to increase efficiency
- Manage repair schedules to reduce vehicle turnaround time

Customer Interaction & Reporting

- Explain technical issues and repair plans to customers in **clear, non-technical language**
- Prepare **job estimates, repair reports, and invoices**
- Handle customer queries or escalations related to mechanical work

Procurement & Inventory Oversight

- Identify needed **spare parts and tools**, and coordinate with the parts department
- Evaluate and recommend suppliers for quality parts
- Maintain proper inventory levels for high-usage components

Compliance & Safety

- Ensure the workshop complies with **industry regulations**, safety laws, and environmental standards
- Oversee regular **maintenance of tools and machinery**
- Conduct **risk assessments** and enforce use of personal protective equipment (PPE)

Continuous Improvement

- Analyze recurring issues and recommend **process improvements**
- Introduce **new technologies or diagnostic tools** when appropriate
- Attend industry training and updates to stay current with vehicle systems and repair methods

RESEARCH ASSISTANT – „GHEORGHE ASACHI" TECHNICAL UNIVERSITY OF IASI – 31/08/2018 – 30/11/2022 – IASI, ROMANIA

Research activities included in the complex project 32PCCDI / 2018 - member of the team of the Complex Project "Increasing the energy efficiency of biogas plants by developing the integrated system: biogas-microalgae-biofuels, within the concept of biorefining"

-design of the experimental installation for testing gaseous fuels

-use of measuring equipment available in the cogeneration-trigeneration laboratory of the ENERED platform

-preparation of technical documentation for the purchase of components required for the experimental stand for testing gaseous fuels

- conducting preliminary tests for the calibration of the experimental stand for the testing of gaseous fuels
- conducting experiments using various gaseous fuels, according to the plan for achieving the indicators in the complex project 32PCCDI / 2018
- elaboration of test reports
- elaboration of technical-scientific reports

MECHANICAL ENGINEER – SC STEG-WYR ENGINEERING – 08/07/2019 – Current – BOTOSANI, ROMANIA

Chief Mechanical Engineer – Classic Car Restoration Workshop and Mechanical & Manufacturing Workshop

- Led the mechanical restoration and preservation of vintage and classic vehicles, ensuring historical authenticity and technical precision across all projects.
- Conducted in-depth mechanical diagnostics and assessments to determine the condition of engines, drivetrains, suspension systems, braking components, and fuel systems.
- Developed detailed mechanical restoration plans for each vehicle, aligning with original factory specifications or client customization requirements.
- Oversaw engine rebuilds, transmission overhauls, and custom mechanical modifications using both original parts and modern equivalents where appropriate.
- Supervised a team of mechanics, fabricators, and technicians, providing technical guidance, allocating tasks, and maintaining high standards of craftsmanship.
- Managed the sourcing and procurement of rare or custom-made components, establishing relationships with international suppliers and restoration parts manufacturers.
- Ensured all restoration work complied with workshop safety standards, environmental regulations, and client expectations.
- Collaborated closely with bodywork, upholstery, and electrical teams to ensure seamless integration of mechanical systems with the vehicle's overall restoration process.
- Maintained detailed records of restoration work for documentation, client reporting, and historical archiving.
- Advised clients on technical aspects of the restoration process, including feasibility, cost estimation, and preservation strategies.
- Activities in the field of research and design based on the projects contracted
- Design of various mechanical parts and assemblies based on specific regulations
- Manufacturing processes
- Non destructive tests done in the field of mechanical design

PRODUCTION ENGINEER – ASOCIATIA HELICOMED IASI – 01/10/2021 – 31/03/2022 – IASI, ROMANIA

Assembled and tested the **LUDOLEXOGRAF**, a specialized educational device designed to support children's writing and spelling development.

Collaborated with the design and manufacturing team to ensure product quality and functionality.

Contributed to the optimization of production processes and troubleshooting of technical issues.

ASSISTANT LECTURER – „GHEORGHE ASACHI" TECHNICAL UNIVERSITY OF IASI – 01/10/2021 – 06/02/2025 – IASI, ROMANIA

- Delivered laboratory sessions for undergraduate students in Machine Elements I, Machine Elements II, Vehicle Maintenance and Reliability;
- Supervised student projects and dissertations, offering academic guidance and technical support throughout research and development stages.
- Participated in curriculum planning and academic committee meetings, contributing to the continuous improvement of educational quality and course alignment with industry standards.
- Collaborated with faculty members on research initiatives in the field of combustion processes and energy systems.
- Supported the organization of academic events and student competitions, and departmental outreach activities.
- Coordinator for Practice activities for students enrolled in 1st year of study and in 3rd year of study;
- Faculty Advisor of Formula Student team "T.U.Iasi Racing";

LECTURER – „GHEORGHE ASACHI" TECHNICAL UNIVERSITY OF IASI – 07/02/2025 – Current – IASI, ROMANIA

- Delivered laboratory sessions for students in mechanical engineering subjects, such as Machine Elements I, Machine Elements II, Vehicle Maintenance and Reliability;
- Designed and updated course curricula, teaching materials, and assessment methods in alignment with academic standards and technological developments in the field;
- Supervised bachelor's and master's theses, guiding students through research planning, technical execution, and academic writing;

- Published research findings in peer-reviewed journals and presented at national and international conferences;
- Supported interdisciplinary collaboration and promoted student participation in engineering competitions;
- Courses and classes for Vehicle Maintenance and Reliability;
- Coordinator for Practice activities for students enrolled in 1st year of study and in 3rd year of study;
- Faculty Advisor of Formula Student team "T.U.Iasi Racing":

● EDUCATION AND TRAINING

30/09/2009 – 10/06/2013 Iasi, Romania

MECHANICAL ENGINEER - AUTOMOTIVE ENGINEERING Technical University „ Gh.Asachi "

Main domains covered:

Calculus
 Heat Engineering and Thermal Systems
 Strength of Materials
 Machine Elements
 Manufacture Technology Tehnologii de fabricatie
 Road Vehicles Designing and Construction
 Electrical Engineering and Electrical Machines
 Fluid Mechanics and Hydraulic Machines
 Hydraulic and Pneumatic Actions
 Traffic Safety Management
 Automotives Electrical and Electronic Equipment
 Construction and Design of Internal Combustion Engines

During the project of Bachelor, I have designed and built, an experimental machine used to evaluate the forces developed by the Wheel and Road contact.

30/09/2013 – 09/07/2015 Iasi, Romania

MASTER STUDIES - CONCEPT AND MANAGEMENT OF AUTOMOBILE DESIGN Technical University „Gh.Asachi"

During the Master, I have developed a proposal project for Dacia-Renault Group, involving a locking rear axle differential, designed for Dacia Duster.

In the project for Master Degree, I have designed, built and tested, suspension elements made of composite materials, for a Formula Student monopost.

30/09/2016 – 26/09/2021 Iasi, Romania

PHD STUDIES „Gheorghe Asachi" Technical University of Iasi

PhD studies in Mechanical Engineering

-Advance elements of design, simulation and diagnosis in Mechanical Engineering
 -Acquisition and conversion of experimental data.
 -During first year of study have designed a combustor demonstrator equipment, in order to simulate and evaluate combustion characteristics of various fuels.
 During second and third year of study the combustor demonstrator was built and calibrated to validate the initial test results.
 In fourth and fifth year of study, using the combustor demonstrator were done tests based on natural gas and butane gas, using various of air preheat temperature and air fuel exces ratio.
 PhD research title: Research on combustors adaptable to closed cycle hybrid solar systems.

Address Dimitrie Mangeron Blvd number 46, 700161, Iasi, Romania | **Website** www.tuiasi.ro |

Field of study Engineering, manufacturing and construction | **Final grade** Ph.D. |

Thesis Research on combustors adaptable to closed cycle hybrid solar systems

30/09/2013 – 30/09/2019

FORMULA STUDENT TEAM MEMBER

During Formula Student project, I had many tasks to fulfill like:

- design of vehicle dynamics
- design and build of suspension components: uprights, wheel hubs, suspension arms

-design, build and test suspension elements made of composite materials
 -design, and manufacture of electrical system
 -design and build of rear axle differential
 From 2016 I am team leader of T.U.Iasi Racing Team.

30/09/2017 – 30/09/2019

POSTGRADUATE COURSE IN PSYCHO-PEDAGOGICAL TRAINING „Gheorghe Asachi" Technical University of Iasi

The psychology of education
 Fundamentals of pedagogy
 Theory and methodology of the curriculum
 Theory and methodology of training
 Evaluation theory and methodology
 Didactics of specialization
 Computer Assisted Training
 Classroom management
 Pedagogical practice in pre-university education

29/06/2026 – 03/07/2026 Wilen bei Wollerau, Switzerland

ERASMUS+ STAFF MOBILITY FOR TRAINING iVATiON GmbH

The mobility had main focus on interdisciplinary evaluation addressing the impact of business consulting on mechanical engineering innovation and design. Also, as part of this training were covered topics related to influence of AI-driven automation on business models in automotive powertrains.

16/06/2026 – 19/06/2026 Karlsruhe, Germany

ERASMUS+ STAFF MOBILITY FOR TEACHING University of Applied Sciences Karlsruhe, Faculty of Mechanical Engineering and Mechatronics

Overall objectives of the mobility:
 The primary objective of this teaching mobility was to deliver specialized lectures in Internal Combustion Engines and Automotive Technology to students at Karlsruhe University of Applied Sciences, bringing an international perspective to their current curriculum.
 Specific objectives include:
 Knowledge Transfer: To introduce students to advanced concepts in automotive engineering, modern drivetrain efficiencies, and the evolving role of internal combustion engines (including alternative fuels and hybridization) in the future mobility mix.
 Pedagogical Exchange: To share innovative teaching methodologies and practical case studies from my home institution, while observing and learning from HKA's highly regarded applied sciences approach.
 Strengthening Institutional Ties: To deepen the academic partnership between my home university and Karlsruhe University of Applied Sciences, exploring potential avenues for joint research projects, student exchange programs, and future thesis co-supervision.
 Internationalization at Home: To provide a multicultural learning environment for HKA students who may not have the opportunity to study abroad, enhancing their intercultural and communication skills within a technical context.

01/09/2026 – 25/09/2026 Iasi, Romania

ENGLISH COURSE - ENGLISH AS MEDIUM OF INSTRUCTION „Gheorghe Asachi" Technical University of Iasi

English classes with specific focus on teaching methods.

● **LANGUAGE SKILLS**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B2	B2	B2
FRENCH	A2	A2	A1	A1	A2
GERMAN	B1	B1	A2	A2	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● JOB-RELATED SKILLS

Job-related skills

Academic & Teaching Skills

- University-Level Teaching Experience (5 years)
- Assessment and Student Evaluation
- Lecture Delivery and Seminar Facilitation
- Blended and Online Teaching Methods

Research & Analytical Skills

- Research in Combustion Processes
- Research in Mechanical Engineering
- Experimental Design and Data Analysis
- Scientific and Technical Writing
- Academic Publishing and Conference Presentation
- Research Project Participation (4 years as Research Assistant)
- Literature Review and Synthesis

Technical Experience

- Combustion and Energy Systems
- Thermodynamics and Fluid Mechanics
- Laboratory Techniques in Combustion Studies
- Use of Scientific Tools (e.g., MATLAB, LabVIEW, or specific simulation software if applicable)
- Use of laboratory tools (planar laser induced fluorescence, gas analyser, gas chromatograph, gas analyser, quadrupole mass spectrometer)
- Technical Report Writing

Interpersonal & Transferable Skills

- Teamwork and Collaboration in Academic Settings
- Interdisciplinary Research Cooperation
- Communication Skills (Verbal & Written)
- Adaptability and Cultural Awareness
- Time Management and Organization
- Problem Solving and Critical Thinking

● ORGANISATIONAL SKILLS

Organisational skills

- **Project Coordination:** Oversaw planning and execution of a multi-phase engineering project (design, testing, competition).
- **Team Leadership & Mentorship:** Guided and supported a diverse student team in technical and non-technical aspects.
- **Strategic Planning:** Helped set project goals, timelines, and deliverables aligned with competition deadlines.
- **Cross-functional Team Management:** Worked with students from multiple disciplines (mechanical, electrical, business, etc.).
- **Resource & Budget Management:** Advised on budgeting, procurement, and resource allocation for team operations.
- **Event & Logistics Planning:** Supported the organization of team events, travel to competitions, and technical reviews.
- **Problem Solving Under Pressure:** Assisted the team in managing design challenges and resolving issues during critical project phases.
- **Stakeholder Communication:** Acted as a liaison between students, university departments, and external sponsors.
- **Documentation & Reporting:** Supervised preparation of technical reports and presentations for competition judges.
- **Risk Management:** Helped identify and mitigate technical, financial, and timeline-related risks during the project lifecycle.

● COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills

- **Mentoring & Coaching:** Provided ongoing guidance to students, fostering both technical growth and soft skill development.
- **Conflict Resolution:** Helped resolve internal team disagreements and facilitated constructive communication during high-pressure phases.

- **Cross-Level Communication:** Effectively communicated with students, university staff, faculty, and external partners (sponsors, judges, vendors).
- **Public Speaking & Presentation Coaching:** Assisted students in preparing and delivering technical presentations and business pitches.
- **Team Motivation & Morale Building:** Promoted a collaborative and inclusive team culture across all disciplines.
- **Stakeholder Engagement:** Maintained strong relationships with industry sponsors and competition organizers, often acting as the team's representative.
- **Feedback Delivery:** Provided constructive feedback to team members and helped implement lessons learned after competitions.
- **Intercultural Communication:** Engaged with international teams and participants during competitions, enhancing cross-cultural awareness and adaptability.

● ARTICLES

Articles

ISI Journals with impact factor:

1. Gheorghe DUMITRAȘCU, Michel FEIDT, Aristotel POPESCU, Ștefan GRIGOREAN „Endoreversible Trigenation Cycle Design Based on Finite Physical Dimensions Thermodynamics” – Energies, Vol. 12, Issue 16, 2019, (Impact Factor 3.004), <https://doi.org/10.3390/en12163165>, ISSN: 1996-1073;
2. Gheorghe DUMITRAȘCU, Michel FEIDT, Ștefan GRIGOREAN „Finite Physical Dimensions Thermodynamics Analysis and Design of Closed Irreversible Cycles” Energies, Vol. 14, Issue 12, 2021, (Impact Factor 3.004), <https://doi.org/10.3390/en14123416>, ISSN: 1996-1073;
3. Ștefan PREDOI, Gheorghe DUMITRAȘCU, Ștefan GRIGOREAN „The Regression Rate-Based Preliminary Engineering Design of Hybrid Rocket Combustion System” Processes, Vol.10, Issue 4, 2022 (Impact Factor 2.8), <https://doi.org/10.3390/pr10040775>
4. Daniel Teodor MINDRU, Ciprian Dumitru CIOFU, Ștefan GRIGOREAN, Mariana MARICA, Ilie DUMITRU, Tiberiu MIRZE, Dumitru NEDELICU „Improved Fixture Layout for a Floating Brake Disc” Machines, Vol. 14, Issue 1, 2026, (Impact Factor 3.00), <https://doi.org/10.3390/machines14010046>, ISSN 2075-1702

ISI indexed journals:

1. Gheorghe DUMITRAȘCU, Michel FEIDT, Ștefan GRIGOREAN „Closed Irreversible Cycles Design based on Finite Physical Dimensions Thermodynamics” MDPI Proceedings 2020, Vol. 54, 2020, ISSN 2504-3900, <https://doi.org/10.3390/WEF-06905>;

Conference proceedings: (main articles - 7 not listed)

1. Ștefan GRIGOREAN, Gheorghe DUMITRAȘCU, Ștefan PREDOI “Oxy-combustion simulation of ethylene” IOP Conference Series: Materials Science and Engineering, Volume 595, number 1, 2019, <https://doi.org/10.1088/1757-899X/595/1/012014>
2. Gheorghe DUMITRAȘCU, Michel FEIDT, Abdul Rahman Jarjes NAMAT, Ștefan GRIGOREAN, Bogdan HORBANIUC “Thermodynamic analysis of irreversible closed Brayton engine cycles used in trigeneration systems” IOP Conference Series: Materials Science and Engineering, Volume 595, number 1, 2019, <https://doi.org/10.1088/1757-899X/595/1/012022>;
3. Ștefan PREDOI, Ștefan GRIGOREAN, Gheorghe DUMITRAȘCU “Comparative analysis regarding hybrid rocket engines with single or multi-stages” AIP Conference Proceedings, volume 2307, 2020, <https://doi.org/10.1063/5.0032760>;
4. Ștefan PREDOI, Ștefan GRIGOREAN, Gheorghe DUMITRAȘCU „Comparative analysis regarding burning process for different fuels in hybrid rocket engines” AIP Conference Proceedings, volume 2190, issue 1, 2019, <https://doi.org/10.1063/1.5138585>;

Book chapters: (Published in *Newest Updates in Physical Science Research* Vol. 4, Publisher: B P International)

1. Dumitrașcu Gheorghe, Aristotel Popescu, Michel Feidt, Ștefan Grigorean „Study on Endoreversible Trigenation Cycles Design Based on Finite Physical Dimensions Thermodynamics” - DOI: <https://doi.org/10.9734/bpi/nupsr/v4/5716D>, 2021;
2. Dumitrașcu Gheorghe, Aristotel Popescu, Michel Feidt, Ștefan Grigorean „Studies on Closed Irreversible Cycles Analysis Based on Finite Physical Dimensions Thermodynamics” - DOI: <https://doi.org/10.9734/bpi/nupsr/v4/7746D>, 2021;

Patent:

Patent number 135603 / 30.07.2024. „Stand experimental pentru analiza proceselor de ardere a combustibililor gazoși”, Ștefan GRIGOREAN, Gheorghe DUMITRAȘCU
 Patent number 153482 / 30.06.2025. „Injector Turbionator cu vane frontale cu inclinare variabila” Ștefan GRIGOREAN, Gheorghe DUMITRAȘCU