

Europass Curriculum Vitae

PERSONAL INFORMATION

First name(s) / Surname(s) **Maria GAVRILESCU**

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Nationality Romanian



POSITION

**Full Professor, "Gheorghe Asachi" Technical University of Iasi, Romania
"Cristofor Simionescu" Faculty of Chemical Engineering and Environmental
Protection, Department of Environmental Engineering and Management**

WORK EXPERIENCE

Dates	1 October 2000 - present
Occupation or position held	Professor
Name and address of employer	"Gheorghe Asachi" Technical University of Iasi, Romania, Faculty of Chemical Engineering and Environmental Protection, Department of Environmental Engineering and Management
Main activities and responsibilities	<ul style="list-style-type: none"> - teaching activity at undergraduate, master, doctoral, postgraduate programs (lectures, tutorials, seminars and projects); - scientific research in several areas, such as: <i>Chemical and Biological Process Engineering, Environmental Engineering, Biotechnologies in Environmental Protection, Ecological and Human Health Risks, Source Reduction and Waste Minimization</i> (waste treatment, valorization and management, sustainable industrial production, ecodesign, integrated pollution prevention and control); - director of national research grants and member in the research teams of national and international grants - management and completion of research projects - PhD supervisor in <i>Chemical engineering</i> (2002-2013) and <i>Environmental engineering</i> (since 2009); - managing Editor / Editor-in-Chief of <i>Environmental Engineering and Management Journal</i>, included in international databases from beginning of publication (2002), ranked as ISI journal based on ISI impact factor, from 2007; - Editor-in-chief of <i>Procedia-Environmental Science, Engineering and Management</i>, included in international databases - Series Editor of <i>Annals of the Academy of Romanian Scientists-Series of Chemistry Sciences</i> - expert evaluator for national research programs launched by the Ministry of Education and Research (CNCSIS, PN-I, PN-II, Calist etc.); - expert evaluator of the European Commission for research projects in FP7, Horizon 2020 programs; - member of the experts group of <i>European Federation of Biotechnology Section Environmental Biotechnology</i> - scientific reviewer of numerous national and international journals; - organization and coordination of students' scientific sessions; - coordination of the activity of scientific student groups; - organizer of national and international scientific conferences and member of scientific committees - member of the board of the Doctoral School of the Faculty of Chemical Engineering and Environmental Protection - director of the department of scientific research / coordinator of the Research Centre for Environmental Engineering and Impact Assessment of the "Gheorghe Asachi" Technical University of Iasi, accredited by CNCSIS - member of the Council of the Department of Engineering and Environmental Management - member of the Faculty Council and University Senate; - vice-dean of the Faculty Council, responsible with scientific research - member of the Commission for quality of the Senate of the "Gheorghe Asachi" Technical University of Iasi - member of the Commission for ethics of the Senate of the "Gheorghe Asachi" Technical University of Iasi - member of the Commission for international relations, university image and honorary titles of the Senate of the "Gheorghe Asachi" Technical University of Iasi - member in commissions for the evaluation of doctoral projects and reports, and committees for the evaluation of doctoral theses - member/president of the committees for license/diploma exams - member of the committee for evaluation and defense of dissertation theses - member in the committee for admittance of the faculty - member of the committee for granting the <i>Doctor Honoris Causa</i> title of the "Gheorghe Asachi" Technical University of Iasi

Name and address of employer	<p>- elaboration and development of materials of common academic interest (for the accreditation of undergraduate and master specializations by ARACIS, accreditation by CNATDCU of the doctoral school in <i>Environmental Engineering</i>, research reports etc.)</p> <p>"Gheorghe Asachi" Technical University of Iasi, Romania (Faculty of Chemical Engineering and Environmental Protection – Department of Environmental Engineering and Management), 73 Prof.Dr.Doc. Dimitrie Mangeron Street, 700050, Iasi, Romania</p>
Dates	1 October 1998 - 30 September 2000
Occupation or position held	Associate Professor
Main activities and responsibilities	<ul style="list-style-type: none"> - teaching activity within undergraduate, master and postgraduate programs (courses, tutorials, seminars, projects); - research activities in Chemical and Biological Process Engineering, Environmental Engineering, Biotechnology/Environmental Biotechnology - director of national research grants - management and completion of national grants- expert evaluator CNCSIS, ANSTI; - expert evaluator for national research programs launched by the Ministry of Education and Research (CNCSIS, ANSTI) - organizing and coordinating students' scientific sessions; - coordination of the activity of scientific students groups; - organizer of national and international scientific conferences and member of scientific committees; - coordinator for diploma projects and master theses (daily and distance learning programs); - member of the Council of the Department of Engineering and Environmental Management - director of the department of scientific research of the Research Centre for Environmental Engineering and Impact Assessment of the Technical University "Gheorghe Asachi" University (accredited by CNCSIS) - member of the committees for graduation exams and dissertation exams (daily and distance learning programs); - member of faculty admissions committee; - member in commissions for the evaluation of doctoral projects and reports, and committees for the evaluation of doctoral theses; - reviewer for national and international journals.
Name and address of employer	<p>"Gheorghe Asachi" Technical University of Iasi, Romania (Faculty of Chemical Engineering – Department of Environmental Engineering), 71 Mangeron Bd., 700050, Iasi, Romania</p>
Dates	1st March 1996- 30th September 1998
Occupation or position held	Senior Scientist II (equivalent to Associate Professor)
Main activities and responsibilities	<ul style="list-style-type: none"> - head of the research group <i>Engineering of Biotechnological Processes</i>; - coordination and development of laboratory, pilot and industrial-scale research studies on biosynthesis of antibiotics, (bio) separations, (bio) purification, unconventional bioreactors and equipment; - development and management of research projects; - micro-scale production; - development and public defense of the PhD Thesis: <i>Study on the flow of heterogeneous systems gas-lift reactors</i> (June, 1997); - studies, research and technical assistance for implementing new biosynthesis technologies (erythromycin, penicillin, vitamin B12; streptomycin); - teaching activities as associate professor at the Faculty of Chemical Engineering of the <i>Gheorghe Asachi</i> Technical University of Iasi, Department of Environmental Engineering
Name and address of employer	<p>Chemical-Pharmaceutical Research Institute Bucharest - Research Center for Antibiotics, Iasi, 1 Valea Lupului Road, Iasi, Romania</p>
Dates	1st November 1990- 29th February 1996
Occupation or position held	Senior Scientist III (equivalent to Lecturer)
Main activities and responsibilities	<ul style="list-style-type: none"> - head of the research group <i>Engineering of Biotechnological Processes</i>; - coordination and development of fundamental and applicative studies and research on momentum, heat and mass transfer in bioreactors at laboratory, pilot and industrial scales; - development and management of research projects; - studies on the performance (mixing time, dispersion, oxygen transfer, specific energy consumption etc.) of conventional and unconventional (bubble columns, gas-lift contactors), respectively, in heterogeneous conditions (gas-liquid-solid systems), applied in antibiotic biosyntheses; - scale-up of bioreactors and bioprocesses; - studies on the rheology of biosynthesis fluids; - studies, research and technical assistance for implementing new biosynthesis technologies (erythromycin, penicillin, vitamin B12; streptomycin); - studies, research for improving biosynthesis and separation/purification yields through laboratory selection and ingredient dosage in biosynthesis liquids.

Name and address of employer	Chemical-Pharmaceutical Research Institute Bucharest - Research Center for Antibiotics, Iasi, 1 Valea Lupului Road, Iasi, Romania
Dates	1 st June 1988 – 31 October 1990
Occupation or position held	Scientific Researcher (equivalent to Assistant Professor)
Main activities and responsibilities	<ul style="list-style-type: none"> - head of the research group <i>Engineering of Biotechnological Processes</i>; - development and management of research projects; - micro-scale production; - research on momentum, heat and mass transfer in bioreactors at laboratory, pilot and industrial scales, in non-Newtonian liquids (antibiotic biosynthesis liquids); - study of conventional and unconventional bioreactors applied for antibiotic biosynthesis; - study the correlation between oxygen demand of aerobic microorganisms and growth conditions in laboratory, pilot and industrial scale; - studies and research within research contracts on optimization of technologies for the production of biosynthetic and semisynthetic ryfamycins (laboratory, pilot and industrial scales); - studies and research within research contracts on optimization of the technology for Penicillin G biosynthesis (pilot and industrial scales).
Name and address of employer	Chemical-Pharmaceutical Research Institute Bucharest - Research Center for Antibiotics, Iasi, 1 Valea Lupului Road, Iasi, Romania
Dates	4 th August 1983 - 31 May 1988
Occupation or position held	Chemical Engineer
Main activities and responsibilities	<ul style="list-style-type: none"> - research within the group <i>Engineering of Biotechnological Processes</i>; - methods for determining the oxygen demand of aerobic microorganisms in antibiotic biosynthesis in relation to dissolved oxygen levels; - screening of methods for the characterization and comparison of bioreactor performance; - studies and research within research contracts on improving and optimization of technologies for the production of biosynthetic and semisynthetic ryfamycins (biosynthesis, separation, purification, conditioning, chemical stability studies) (laboratory, pilot and industrial scales).
Name and address of employer	Chemical-Pharmaceutical Research Institute Bucharest - Research Center for Antibiotics, Iasi, 1 Valea Lupului Road, Iasi, Romania
Dates	1981-1983
Occupation or position held	Chemical Engineer
Main activities and responsibilities	Head of working team
Name and address of employer	Integrated Artificial Yarns Factory, Braila, Romania and Integrated Factory for Synthetic Fibers Iasi, Romania
EDUCATION, TRAINING, TEACHING AND EXCHANGES	
Dates	2009 - International Training on Concepts in Environmental Science and Engineering, Iasi, Romania, 1-4 iunie 2009
Activities developed, title/qualification awarded	Training in engineering and environmental management, estimation and management of environmental and human health risks / Certificate of completion
Name and type of organization	Michigan State University, Institute of International Health and Fogarty International Center Program on Environmental Health, Training and Research in Environmental Health in the Balkans (TREHB)
Dates	2005 - <i>E-learning: formation des formateurs</i>
Activities developed, title/qualification	Trainer in learning activities platform e-learning (development in C++, <i>Dreamweaver</i> , <i>Microsoft Frontpage</i>)
Name and type of organization	<i>University Henry Poincare Nancy</i> , Association of Francophone Universities and <i>Gheorghe Asachi Technical University Iasi</i>
Dates	2005 - <i>Eco-certification in tourism</i>
Activities developed, title/qualification	Postgraduate course on Eco-tourism certification/Certificate of attending

Name and type of organization	Department of Environmental Engineering and Management – <i>Gheorghe Asachi</i> Technical University Iasi, Center for Research in Tourism <i>Bucovina</i> , Campulung Moldovenesc and International Institute of Industrial Environment Economics, Lund, Sweden
Dates	2004 - <i>How to Manage European Funds</i>
Activities developed, title/qualification	Intensive course / Certificate of attending
Name and type of organization	APART Project School and <i>Gheorghe Asachi</i> Technical University Iasi
Dates	2004 - <i>Sustainable Tourism, Certification, Ecolabelling</i>
Activities developed, title/qualification	Intensive course / Certificate of attending
Name and type of organization	Department of Environmental Engineering and Management – <i>Gheorghe Asachi</i> Technical University Iasi and International Institute of Industrial Environment Economics, Lund, Sweden
Dates	2004 - <i>Ecodesign and Product Innovation</i>
Activities developed, title/qualification	Intensive course / Certificate of attending
Name and type of organization	Department of Environmental Engineering and Management – <i>Gheorghe Asachi</i> Technical University Iasi and International Institute of Industrial Environment Economics, Lund, Sweden
Dates	2004 - <i>Waste Management</i>
Activities developed, title/qualification	Intensive course / Certificate of attending
Name and type of organization	Department of Environmental Engineering and Management – <i>Gheorghe Asachi</i> Technical University Iasi and International Institute of Industrial Environment Economics, Lund, Sweden
Dates	2004 - Environmental Management Systems Audit: ISO 14001-1996
Activities developed, title/qualification	Intensive Course/Certificate of Internal Auditor in Environmental Management Systems according to ISO 14001:1996, No. 0034, 2004.
Name and type of organization	Chamber of Commerce Iasi and SGS Belgium-Romania
Dates	2003 - <i>How to Apply with Success in the Sixth Framework Programme (FP6)</i>
Activities developed, title/qualification	Intensive course/ Certificate of attending
Name and type of organization	Romanian Ministry of Education-UEFISCSU and Hyperion Ltd. Ireland
Dates	2003 - Exchanges on Curricula
Activities developed, title/qualification	Documentation visit and experience exchange
Name and type of organization	International Institute of Industrial Environment Economics, Lund, Sweden
Dates	June - July 2000
Activities developed, title/qualification	Open competition for Full Professor position (<i>Process Engineering, Bases of Technological Systems</i>) / Professor
Name and type of organization	<i>Gheorghe Asachi</i> Technical University of Iasi, Romania (Faculty of Chemical Engineering and Environmental Protection – Department of Environmental Engineering and Management), 73 Prof.Dr.Doc. Dimitrie Mangeron Street, 700050, Iasi, Romania
Dates	May - June 1998
Activities developed, title/qualification	Open competition for Associate Professor position (<i>Process Engineering, Bases of Technological Systems</i>) / Associate Professor

Name and type of organization	<i>Gheorghe Asachi</i> Technical University of Iasi, Romania (Faculty of Chemical Engineering – Department of Environmental Engineering), 71 Mangeron Bd., 700050, Iasi, Romania
Dates	1989 – 1997 - PhD Student
Activities developed, title/qualification	PhD degree in Chemical Engineering Thesis: "Study on the flow of heterogeneous systems in gas-lift reactors", supervisor Prof. dr. doc. eng. Radu Z. Tudose, Member of the Romanian Academy (public defense: June 1997), PhD title awarded by the Romanian Ministry of Education, <i>Doctor Engineer</i> diploma, Seria P, Nr. 0006233 din 10/12/1997 (972)
Name and type of organization	"Gheorghe Asachi" Technical University of Iasi, Romania
Dates	February 1996
Activities developed, title/qualification	Competition/ Certification as Senior Scientist, 2nd degree
Name and type of organization	Chemical-Pharmaceutical Research Institute, Bucharest, Romania
Dates	October 1990
Activities developed, title/qualification	Competition/ Certification as Senior Scientist, 3rd degree
Name and type of organization	Chemical-Pharmaceutical Research Institute, Bucharest, Romania
Dates	June 1988
Activities developed, title/qualification	Competition/ Certification as Scientific Researcher
Name and type of organization	Chemical-Pharmaceutical Research Institute, Bucharest, Romania
Dates	1987 -1988 , Postgraduate training on development of minicomputer programs and products (FELIX-Mini)
Activities developed, title/qualification	Cobol programming language, database management/ Certificate of graduation as Developer of software for minicomputers, Series A, No. 02270, din 01/08/1988 (5)
Name and type of organization	Computers Center, Iasi, Romania
Dates	1986 – 1987 , Postgraduate Intensive Course of English Language
Activities developed, title/qualification	English Language and Literature/ Postgraduation Diploma Series B, No. 1206, din 20/04/1988 (206)
Name and type of organisation	"Al.I. Cuza" University of Iasi, Faculty of Philology, Iasi, Romania
Dates	1986 – 1987 , Intensive course of <i>Value Analysis</i>
Activities developed, title/qualification	Certificate of attendance
Name and type of organization	<i>Gheorghe Asachi</i> Polytechnic Institute of Iasi, Faculty of Industrial Chemistry, Iasi, Romania
Dates	1986 – 1987 , Intensive course of <i>Process Optimization in Chemical Industry</i>
Activities developed, title/qualification	Certificate of attendance
Name and type of organisation	<i>Gheorghe Asachi</i> Polytechnic Institute of Iasi, Faculty of Industrial Chemistry, Iasi, Romania
Dates	1977 - 1981
Activities developed, title/qualification	Undergraduate courses and Diploma as Chemical Engineer , specialization <i>Technology of Organic Compounds</i> ,
Name and type of organization	<i>Gheorghe Asachi</i> Polytechnic Institute of Iasi, Faculty of Chemical Technology, Iasi, Romania

PERSONAL SKILLS AND COMPETENCES

Mother tongue(s)
Other language(s)
Self-assessment
European level (*)
English
French
German

Romanian

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	High experience	C2	High experience	C2	High experience	C2	High experience	C2	High experience
B2	Medium experience	B2	Medium experience	B2	Medium experience	B1	Medium experience	B2	Medium experience
A2	Basic knowledge	A2	Basic knowledge	A2	Basic knowledge	A1	Basic knowledge	A2	Basic knowledge

(*) [Common European Framework of Reference for Languages](#)

SOCIAL SKILLS AND COMPETENCES

Experience in teamwork, collaboration with other organizations, intercultural relations, mediation in conflict situations, involvement in young's and students' actions, teaching, training

SCIENTIFIC, TECHNICAL/RESEARCH AND ORGANIZATIONAL SKILLS AND COMPETENCES

Experience in teaching, theoretical and practical training, projects / contracts management, team management, motivation of co-workers, diplomacy in interpersonal relations:

Contexts in which the skills were acquired:

- **TEACHING, TRAINING AND EDUCATION** (undergraduate, master, doctoral, postgraduate studies)

Undergraduate studies:

Courses and applications (seminars, laboratories, projects):

Basis of Technological Systems, specializations: *Technology and Biotechnology of Environmental Protection/Engineering and Environmental Protection in Industry (Environmental Engineering field of study) and Biochemical Engineering Protection (Chemical Engineering field of study)*

Analysis and Synthesis of Technological Processes, specialization: *Technology and Biotechnology of Environmental Protection/Engineering and Environmental Protection in Industry (Environmental Engineering field of study)*

Sources, Processes and Pollutant Products, specialization: *Technology and Biotechnology of Environmental Protection/Engineering and Environmental Protection in Industry (Environmental Engineering field of study)*

Process Engineering and Specific Operations in Environmental Engineering, specialization: *Technology and Biotechnology of Environmental Protection/Engineering and Environmental Protection in Industry (Environmental Engineering field of study)*

Chemical and Biological Processes Engineering, specialization: *Technology and Biotechnology of Environmental Protection/Engineering and Environmental Protection in Industry (Environmental Engineering field of study)*

Integrated Pollution Prevention and Control, specialization: *Technology and Biotechnology of Environmental Protection/Engineering and Environmental Protection in Industry (Environmental Engineering field of study)*

Master studies:

Courses and applications (seminars, projects):

Modeling and Simulation of Processes for Environmental Protection, specialization: *Environmental Management (Environmental Engineering field of study) (Daily and Open Distance Learning programs, Romanian line)*

Risk Assessment and Management, specialization: *Environmental Management (Environmental Engineering field of study) (Daily and Open Distance Learning programs, Romanian line)*

Source Reduction and Waste Minimization, specialization: *Environmental Management (Environmental Engineering field of study) (Daily and Open Distance Learning programs, Romanian line)*

Legislation in Environmental Protection, specialization: *Projects Management (Daily program, Romanian line), within the Department of Programs of the "Gheorghe Asachi" Technical University of Iași*

Sustainable Industrial Production, specialization: *Environmental Management (Environmental Engineering field of study) (Daily and Open Distance Learning programs, Romanian line)*

Sustainable Industrial Production, specialization: *Environmental Management and Sustainable Energy (Environmental Engineering field of study) (Daily program, English line)*

Doctoral studies:

Courses and applications (seminars, projects):

Elaboration, evaluation and presentation of scientific works, within the Doctoral School of the Gheorghe Asachi Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection and other Faculties of the University - **Elaboration of Scientific Documents and Research Deontology**, for the PhD students of the "Cristofor Simionescu" Faculty of Chemical Engineering and Environmental Protection (from the academic year 2017-2018)

- *Ethics and Academic Integrity*, for the PhD students of the Doctoral School of the "Gheorghe Asachi" Technical University of Iași (since the 2018-2019 academic year)

Postgraduate studies:

- *Design and implementation of occupational health and safety systems*
 - *Major accidents and environmental disasters*
Postgraduate courses at Aerostar company, Bacău, Romania
 - *Major ecological accidents and disasters*, Postgraduate training and professional development program: *Environmental Management and Protection in the Context of Sustainable Development* (2013-2014), "Gheorghe Asachi" Technical University of Iași, Department of Environmental Engineering and Management
 - *Influence of environmental protection on population health*
- Occupational health and safety
 - Risk assessment and management
 - Occupational health and safety management
- Postgraduate course, *Design and Implementation of the Occupational Health and Safety Management System*

- **SCIENTIFIC EVENTS ORGANIZED AT LOCAL, NATIONAL AND INTERNATIONAL LEVELS, MEMBER OF ORGANIZING AND SCIENTIFIC COMMITTEES:**

Over 60 events (included in the List of scientific activity, annexed)

- **ACTIVITIES IN THE ACADEMIC COMMUNITY**

- organizing and coordinating students' scientific sessions;
- coordination of the activity of scientific students groups;
- director/member of the board of the Doctoral School of the Faculty of Chemical Engineering and Environmental Protection
- member of the Council of the Department of Engineering and Environmental Management
- member of the Faculty Council and University Senate;
- vice-dean of the Faculty Council, responsible with scientific research
- member of the Commission for quality of the Senate of the "Gheorghe Asachi" Technical University of Iași
- member of the Commission for ethics of the Senate of the "Gheorghe Asachi" Technical University of Iași
- member of the Commission for international relations, university image and honorary titles of the Senate of the "Gheorghe Asachi" Technical University of Iași
- secretary of the Commission for Research - Development, Entrepreneurship and Private Public Partnership of the Senate of the "Gheorghe Asachi" Technical University of Iași
- elaboration and development of materials of common academic interest (for the accreditation of undergraduate and master specializations by ARACIS, accreditation by CNATDCU of the doctoral school in *Environmental Engineering*, research reports etc.)
- member of the General Council of the National Council for the Recognition of Academic Degrees, Diplomas and Certificates (CNATDCU) and president of the *Commission of Environmental Engineering*- Romanian Ministry of Education and Research (since 2012) (O_MEC 5644/05.09.2012; Order MECS nr.3019/1.01.2016)
- member of the *Commission Earth Sciences* of Panel 1 (*Mathematics and Natural Sciences*) of the National Council For the Recognition of Academic Degrees, Diplomas and Certificates – Romanian Ministry of Education and Research (2011-2012) (O_MEC 3980/25.03.2011)
- member of the Commission *Chemical Engineering, Materials Engineering and Food Products Engineering* of the National Council for the Recognition of Academic Degrees, Diplomas and Certificates – Romanian Ministry of Education, Research and Innovation, (2006-2010) (O_MEC 3904/10.05.2006)

- **SCIENTIFIC COMPETENCES AND RESEARCH DIRECTIONS**

Chemical and Biological Process Engineering (with applications in environmental protection and resource conservation)

- ***transfer phenomena in chemical, biochemical and biological processes:***
- flow of heterogeneous systems in mechanical and pneumatic contactors
- rheology of biological liquids
- mass transfer in mixing vessels, pneumatic contactors, extraction devices, filters, centrifuges
- heat transfer in chemical/biochemical processes and separation-purification operations and processes
- ***migration and fate of inorganic and organic persistent pollutants*** (heavy metals, persistent organic pollutants POPs, personal care compounds, dyes) in soils and natural sorbents
- ***bases of technological systems, analysis and synthesis***

- **intensification of transfer processes in chemical engineering and biotechnology** (performance mixing systems in contactors with mechanical agitation; application of static mixing promoters on pilot and industrial scale to intensify the mixing process; bio-augmentation, promoting synergism of plants-microorganisms in phytoremediation processes)
- **unit processes and operations in chemical, biochemical and biological processes**, applied in biotechnology and environment protection (filtration, centrifugation, extraction, distillation-rectification, evaporation and crystallization, adsorption on ion exchangers and natural adsorbents, membrane separation, photodegradation, catalysis)
- **new technical systems, (bio)reactors, in chemical and biochemical industrial processes** for energy saving and efficiency
- **process scale-up**, with applications in environmental engineering
- **modelling, simulation and optimization of processes**, including environmental applications

- **Biotechnologies and bioprocesses, with applications in biosynthesis processes and environmental protection, in the following directions:**

- **bases of biochemical and biological reactions** (mass conversion assisted by microorganisms or enzymes; transfer phenomena; microbial strains manipulation in bioreactors; oxygen uptake by microorganisms; resistance of microbial agents to shear stress, with applications in environmental protection, equilibrium, kinetics and thermodynamics)
- **biosynthesis of antibiotics in performing gas-lift type reactors and in stirred tank reactors**
- **biological treatment of gaseous and liquid fluxes** containing biodegradable pollutants
- **environmental recuperative bioremediation of components** affected by pollution phenomena, (bio)degradation of refractory pollutants
- **behavior of heavy metals in the environment and bioremediation alternatives**
- **biosorption and bioaccumulation** of heavy metals, persistent organic pollutants by living and non-living biomass (yeasts, fungi, bacteria), agricultural and vegetable waste (algae, vegetable waste, seed hulls)
- **exploring and exploiting the abilities of microorganisms, plants and their interactions for environmental bioremediations**

- **Sustainable industrial production, circular economy, sustainability indicators for products and processes, in the following directions:**

- **integrated pollution prevention and control** (sustainable practices for processes, products, services) (identifying and analyzing strategies and technologies for pollution prevention and cleaner production as tools for sustainable development in production and service systems, reducing pollution at source and managing waste, the hierarchy of waste management, integration of economic aspects and pollution prevention practices for a sustainable industry)
- **strategies and solutions for eco-innovation and eco-design of processes and products based on recyclable materials in the context of the circular economy** (eco-innovation and eco-design practices for products and processes by reusing production waste, formulating eco-innovation and eco-design problems for products and processes, according to the need of the economic agent, establishing the eco-profile of the process and the product and implementation in the industrial system)
- **evaluation of the performances and sustainability of some products and processes** (assessment of economic and environmental impacts for product and process through life cycle analysis (LCA), cost-benefit analysis for eco-innovative and eco-designed products and processes (CBA), multicriteria decision analysis for product and process (MCDA), ecological footprint, other sustainability indicators)
- **establishing ways and methods of implementing knowledge transfer** (the content and transfer indicators for eco-designed products, in the context of the circular economy)
- **tools for evaluation and modeling of solid waste management** and treatment of effluents resulting from their storage (tools for making decisions on the sustainable use of waste as material and energy resources, the sustainable use of natural materials and waste for decontamination of environmental components, waste management models and their application for the sustainable management of recyclable waste)
- **practices of the circular economy in environmental engineering, biotechnology and management within the sustainable (bio)economy**, based on knowledge and tools for assessing their sustainability

- **Risk assessment and management (ecological risks, human health risks, ecotoxicity, phytotoxicity, Seveso directives), in the following directions:**

- **estimating the risks generated by the accumulation of pesticides in plant products and risks induced for human health through short and long term exposure**
- **estimation of ecological risks induced by the presence of heavy metals and persistent organic pollutants in soils and waters**
- **integrating ecological and human health risk estimation and ecological impacts**
- **assessment of bioavailability, bioaccumulation, persistence, ecotoxicity, phytotoxicity** for various environmental contaminants and effects on plants and microorganisms
- **compliance with the provisions of the Seveso Directives and other regulations regarding major accidents** generated in industrial systems that produce and use hazardous substances

- **Environmental assessments, in the following directions:**

- **environmental balances** (according to the legislative procedures and in accordance with the principles of mass balance applied to polluting systems, the elaboration of environmental balances of level 0, I, II; elaboration of reports on the environmental balance of level I, II; elaboration of the file presentation)

- *elaboration of security reports*
- *impact studies for various stages of the life cycle of processes, products, services*

- *Education and training for research and innovation, in the following directions:*

- *elaboration, evaluation, publication and communication of scientific materials,*
- *ethics and academic integrity,*
- *research deontology*

PhD Supervisor since 2002 (until 2011):

Engineering Sciences – *Chemical Engineering*, 7 PhDs

PhD Supervisor since 2009:

Engineering Sciences – *Environmental Engineering*, 9 PhDs and 10 PhD students

- **EXPERIENCE IN RESEARCH PROJECT MANAGEMENT / CONTRACTS:**

Project director/responsible and member in research groups and accomplishments:

- **original technologies applied in industry: 10**
- **research themes with industrial companies: 21** (11 as responsible or director)
- **national grants (CNCSIS, PNCDI-I, PNCDI-II: 33** (17 as project director)
- **international grants: 6** (in cooperation, as member of research teams)

- **expert in projects from structural funds (POSDRU, POCU, POC): 10**

- **expert in institutional development projects (FDI): 7**

- **COMPETENCES AND EXPERIENCE IN EVALUATION OF SCIENTIFIC WORKS AND EDITING SCIENTIFIC MATERIALS**

- as editor of scientific journals:

Environmental Engineering and Management Journal (Managing Editor 2002-2014, Editor-in-Chief, since 2014-) (WoS) (<http://www.eemj.icpm.tuiasi.ro/>; www.eemj.eu)

Procedia – Environmental Science, Engineering and Management (Editor-in-Chief)(Scopus) (www.procedia-esem.eu)

Annals of the Academy of Romanian Scientists - Series on Physics and Chemistry (Series Editor)(Index Copernicus) (<http://aos.ro/editura/analeleaosr/annals-on-physics-and-chemistry>)

Bulletin of the Polytechnic Institute of Iasi – Section Chemistry and Chemical Engineering (2000-2004) (Index Copernicus) (<http://www.bipcic.icpm.tuiasi.ro/>)

Peer J, (WoS), Academic Editor (<https://peerj.com/MGAV/>)

Water, (WoS), Academic Editor, *secțiunea Water and Wastewater Treatment*

(https://www.mdpi.com/journal/water/sectioneditors/Water_Wastewater_Treatment)

Plants, (WoS) Academic Editor, *secțiunea Plant–Soil Interactions* (<https://www.mdpi.com/journal/plants/sectioneditors/plant-soil-interactions>)

Sustainability, (WoS), Academic Editor, *secțiunea Environmental Sustainability and Applications* (https://www.mdpi.com/journal/sustainability/sectioneditors/environment_and_resources)

Processes, (WoS), Academic Editor *secțiunea Green Processing*

(https://www.mdpi.com/journal/processes/sectioneditors/green_processes)

Applied Sciences, (WoS), Academic Editor, *secțiunea Green Sustainable Science and*

Technology(https://www.mdpi.com/journal/applsci/sectioneditors/green_sustainable_science_technology)

Hungarian Journal of Industry and Chemistry, Editor

(https://hjc.mk.uni-pannon.hu/index.php/hjc/editorial_board)

- peer-reviewer for international journals:

Bulletin of Iasi Polytechnic Institute, Environmental Engineering and Management Journal Iasi Polytechnic Magazine, Bioprocess Engineering, Brazilian Journal of Chemical Engineering, Cellulose Chemistry and Technology, Chemical Engineering Journal, Chemosphere, CLEAN-Water, Air, Soil, Critical Reviews in Biotechnology, Environment International, Environmental Science and Technology, Environmental Technology, Energy, Journal of Environmental Management, Journal of Hazardous Materials, Clean-Soil Air, Water, Journal of Environmental Engineering and Landscape Management, Journal of Cleaner Production, Geoderma, International Journal of Environment and Pollution, Journal of Hazardous Materials, Bioprocess and Biosystems Engineering, Arid Land Research and Management, Universal Journal of Education and General Studies, Current Biotechnology, Journal of Research in International Business and Management, Separation Science and Technology, Resources, Conservation & Recycling, Desalination and Water Treatment, Water, Air, & Soil Pollution, Bioresource Technology, Critical Reviews in Environmental Science and Technology, Peer J, Water etc.

Reviewer of ECOZONE Publishing House, Iasi, Romania

- expert:

- National Council for Scientific Research CNCISIS/UEFISCDI: 2001-2015
- National Agency ANSTI: 2001-2002
- Program CALIST: 2004
- National Program PN-II (program IDEI)
- Member of the Ministry's Register of Experts MEC-CNCISIS
- Member of the Commission *Chemical Engineering, Materials Engineering and Food Products Engineering of the National Council For the Recognition of Academic Degrees, Diplomas and Certificates* – Romanian Ministry of Education, Research and Innovation, for confirmation of PhD degrees, PhD supervising and University Doctoral Studies Organizing Institutions (2006-2010) (O_MEC 3904/2006)
- Member of the Commission *Earth Sciences of the National Council For the Recognition of Academic Degrees, Diplomas and Certificates* – Romanian Ministry of Education, Research and Innovation (2011-2012) (O_MEC 3980/2011)
- President of the *Commission of Environmental Engineering of the National Council For the Recognition of Academic Degrees, Diplomas and Certificates* – Romanian Ministry of Education, Research and Innovation, Member of the General Council (since 2012) (O_MEC 5644/05.09.2012)
- Independent Expert European Commission (FP6, FP7, Horizon 2020)
- External Expert for the evaluation of MSc and PhD Theses
- Expert of the Ministry of Environment and Forests for Safety Reports
- Expert in five POSDRU doctoral programs and two POSDRU postdoctoral programs at Gheorghe Asachi Technical University of Iasi, Romania, funded by the European Social Fund, expert in five institutional projects
 - Expert in one project co-financed from the European Regional Development Fund through the Competitiveness Operational Program (POC) 2014-2020
 - Expert in 2 projects co-financed by the Human Capital Operational Program (POCU)

• **MEMBER OF ENTITIES/ASSOCIATIONS/ PROFESSIONAL AND SCIENTIFIC COMMITTEES**

- Member of the Academy of Romanian Scientists (<http://www.aosr.ro/wp-content/uploads/2020/06/sectia03.pdf>)
- 2017 - Member of the Editorial Board for the *Canadian Journal of Biotechnology* (<https://www.canadianjbiotech.com/editorial.php>)
- 2012 - Member of the Editorial Team of the journal *Soil Forming Factors and Processes in the Temperate Region*, edited by the University of Al.I. Cuza from Iasi (
- 2011 - Member of the Editorial Advisory Board for the journal *Scientific Study & Research- Chemistry & Chemical Engineering, Biotechnology, Food Industry*, published by Vasile Alecsandri University in Bacău, Romania (indexed Web of Science, Emerging Sources Citation Index) <http://pubs.ub.ro/?pg=revues&rev=csc6&sc=csc6board>)
- 2011 - Member of the Editorial Advisory Board for the *Journal of Engineering Studies and Research (JESR)*, published by Vasile Alecsandri University in Bacau, Romania (<http://pubs.ub.ro/?pg=revues&rev=jesr&sc=editboard>)
- 2011-2017 - Member of the Editorial Board of the *Journal of Applied Sciences in Environmental Sanitation (J.ASES)*, edited by the Department of Environmental Engineering, Sepuluh Nopember Institute of Technology, Surabaya, Indonesia, and Indonesian Society of Sanitary and Environmental Engineers (2008-2012)
- Member of the Editorial Board for *EcoTerra, Journal of Environmental Research and Protection* (<http://www.ecoterra-online.ro/en/editorial-board>)
- Member of the Scientific Board of *Acta Technica Napocensis* (Environmental Engineering and Sustainable Development Entrepreneurship) (https://imadd.utcluj.ro/eesde/vol4_1_files/00_Content_Cuprins.pdf)
- 2009 – Member of the Editorial Advisory Board of the *European Journal of Science and Theology*, published by EcoZone Publishing House, Iasi, Romania (indexed in Scopus, WoS) (<http://www.ejst.tuiasi.ro/editorial.html>)
- 2009 – Member of the Editorial Advisory Board of the *Journal of Environmental Engineering and Landscape Management* (JIF 1.302/2021 (WOS)) (<https://journals.vgtu.lt/index.php/JEELM/editorialboard>)
- 2009 – Member of the Editorial Board of the *International Journal of Conservation Science* (indexed Web of Science) (<https://ijcs.ro/editorial-board/>) (indexed WoS)
- 2007-2014 – member of the Editorial Scientific Board of *The Open Biotechnology Journal*, published by Bentham Science Publishers
 - 1997-2000 - Member of the Editorial Advisory Board of the *Bioprocess Engineering* journal, published by Springer Verlag, Berlin, Germany

• **VISITING PROFESSOR AND EXCHANGE PROGRAMS:**

- visiting professor

2019 - Vienna University of Technology, Austria

2019 - University *Frederico II*, Napoli, Italy

2018 - Technical University of Crete, Greece
 2017 - University of Natural Resources and Life Sciences, Vienna, Austria
 2016 – University of Minho, Portugal
 2015 - University of Natural Resources and Life Sciences, Vienna, Austria
 2015 - Technical University of Crete, Greece
 2014 - University Rennes, France
 2014 - University of Maribor, Slovenia
 2014 - University of Applied Sciences, Northwestern Switzerland, Muttenz, Switzerland
 2013 - University del Insubria, Varese, Italy
 2013 - University *Alma Mater Studiorum* Bologna, Italy
 2013 - Vienna University of Technology, Vienna, Austria
 2012 - University *Frederico II*, Naples, Italy
 2012 - University *Alma Mater Studiorum*, Bologna, Italy
 2012 - Vienna University of Technology, Vienna, Austria
 2011 - University *Frederico II*, Napoli, Italy
 2011 - *TECHNION* - Israel Institute of Technology, Haifa, Israel
 2011 - University *Alma Mater Studiorum* Bologna, Italy
 2011 - University of Padova, Italy
 2011 - Minho University, Braga, Portugal
 2010 - University of Twente, The Netherlands
 2010 - Vienna University of Technology, Austria
 2009 - *Pannon University*, Veszprem, Hungary
 2007 - *Danish University of Technology*, 2007, Copenhagen, Denmark
 2007 - *Vienna University of Technology*, Institute fur Verfahrenstechnik, Umwelttechnik und Techn. Biowissenschaften, August 2007
 2006 - *University Minho*, Portugal
 2005 - *University Minho*, Portugal, 2005 Lund University, *International Institute for Industrial Environmental Economics*
 2004 - *Henry Poincaré* University, Nancy1, European Summer School: *Human Environment: Energy, Forests, Health and Society*, September 3-10
 2004 - Lund University, *International Institute for Industrial Environmental Economics*

- bilateral agreements and Erasmus and Erasmus + programs

2011-2014 Erasmus	University Maribor, Slovenia
2011-2014 Erasmus	University of Study dell'Insubria, Varese, Italy,
2010-2013 Erasmus	University of Study, Federico II, Naples, Italy,
2010-2013 Erasmus	Alma Mater Studiorum University of Study, Bologna, Italy,
2009-2014 Erasmus	Twente University Netherlands,
2008-2013 Erasmus	University Minho, Portugal,
2014-2021 Erasmus+	University Minho, Portugal,
2014-2021 Erasmus+	University of Natural Resources and Life Sciences, Austria
2014-2021 Erasmus+	Technical University of Crete, Grecia
2014-2021 Erasmus+	Universidade do Minho, Portugalia
2014-2021 Erasmus+	University of Maribor, Slovenia
2014-2021 Erasmus+	Hacettepe University Ankara, Turcia
2014-2021 Erasmus+	Karabuk University, Turcia
2014-2017 Erasmus	Twente University Netherlands,
2014-2021 Erasmus+	University of Study, Federico II, Naples, Italy,
2014-2021 Erasmus+	Alma Mater Studiorum University of Study, Bologna, Italy
2017-2020 SEMP	University of Applied Sciences, Northwestern Switzerland, Muttenz, Switzerland – Swiss-European Mobility Programme
2019-2021 Erasmus+	Twente University Netherlands,
2018-2021 Erasmus+	University Vigo, Spain
2019-2021 Erasmus+	University Almeria, Spain
2019-2021 Erasmus+	National Technical University, Athene, Grecia

- doctorate în cotutelă

- University Alma Mater Studiorum, Bologna, Italy (1)
- Vienna University of Technology (1)
- University Twente, Enschede, The Netherlands (2)
- University Minho, Braga, Portugal (2)

- **PRIZES, NOMINATIONS**

- **Prizes (selection):**

- "Nicolae Teclu" Prize of the Romanian Academy, Section of Chemistry, awarded in 1995 for the group of papers "*Study of Transfer Phenomena in Polydisperse Systems, with Applications in Bioreactors*";
- "Mircea Banciu" Prize of the Academy of Romanian Scientists, Section of Chemical Sciences, awarded in 2016, for the monograph "*Biosorption and Bioaccumulation: Principles and Applications in Environmental Bioremediation*", Politehnium Publishing House, Iasi, 2016;
- **Best Paper Award**, 2012, acordat de Editura Springer, pentru lucrarea științifică *Soil and groundwater cleanup: benefits and limits of emerging technologies*, publicată în jurnalul *Clean Technologies and Environmental Policy*, vol. 13, No. 2, pp. 241-268, 2011;
- **Best Poster Award**, 2012, acordat în cadrul *Global Conference on Global Warming GCGW-12*, 8-12 iulie, 2012, Istanbul, Turcia;
- **Diplomă de excelență** și **Medalia „Inventica”** 2008, acordate de Societatea Inventatorilor din România și Institutul Național de Inventică, Iași, la Salonul Internațional Jubiliar al Cercetării, Inventiilor și Transferului Tehnologic, „Inventica 2008”, Iasi, Romania;
- **Diploma pentru excelență în cercetare** și **Medalia „Gheorghe Asachi”** acordate de Senatul Universității Tehnice „Gheorghe Asachi” din Iași, Romania, 2007;
- **Diploma de excelență pentru cercetare inovativă** și **Medalia de aur** acordată de European Exhibition of Creativity and Innovation *EUROINVENT 2010*, 7-9 mai, Iasi, Romania;
- **Diploma de excelență** acordată de European Exhibition of Creativity and Innovation, 2011, Iasi, Romania.
- **Diploma și Marele Premiu** al *National Salon and Scientific Books* din cadrul *EuroInvent 2012, European Exhibition of Creativity and Innovation*, Iasi, Romania
- **Diploma de Excelență** acordată pentru *Environmental Engineering and Management Journal*, în cadrul *National Salon of Technical and Scientific Books, EuroInvent*, Iasi, Romania, 2013.
- **Diploma de Excelență în Cercetare**, acordată de Senatul Universității Tehnice „Gheorghe Asachi” din Iași, Romania, 2014;
- **Diploma AGIR, Secțiunea Ingineria Mediului**, pentru cartea *Metode de evaluare a efectelor poluării aerului cu poluanți particulați asupra sănătății copiilor*, ISBN 9786062501211, Editura MatrixRom, 2014;
- **Diploma de apreciere**, pentru *Environmental Engineering and Management Journal* și Editor-in-Chief, *EuroInvent 2015*, Iasi, Romania.
- **Best Communication**, pentru lucrarea *Effects induced by heavy metals stress on seedlings development of lettuce*, Dana-Mihaela Asimnicesei, Raluca Maria-Hlihor, Mihaela Roșca, Petronela Cozma, Maria Gavrilăscu, 640th International Conference on Environmental Science and Development (ICESD), 20th - 21st July 2019, Rome, Italy
- **Diploma and GOLD MEDAL**, Project: Integrating environmental bioremediation with biomass valorization and critical raw materials recovery by phytomining (Phytomin), Project Director: Prof.univ.dr.eng. Maria Gavrilăscu, Members of the Research Team: Laura Bulgariu, Dan Alexandru Gavrilăscu, Mariana Diaconu, Petronela Cozma, Raluca-Maria Hlihor, Isabela-Maria Simion, Elena-Diana Ungureanu-Comăniță, Maria Apostol, Mariana Minuț, Ionela Cătălina Vasilachi, Maria Paiu, European Exhibition of Creativity and Innovation, 14th Edition of EUROINVENT, 26-28 Mai 2022, Palace of Culture, Iasi, Romania, awarded by the International Jury
- **SPECIAL AWARD**, Project: Integrating environmental bioremediation with biomass valorization and critical raw materials recovery by phytomining (Phytomin), Project Director: Prof.univ.dr.eng. Maria Gavrilăscu, Members of the Research Team: Laura Bulgariu, Dan Alexandru Gavrilăscu, Mariana Diaconu, Petronela Cozma, Raluca-Maria Hlihor, Isabela-Maria Simion, Elena-Diana Ungureanu-Comăniță, Maria Apostol, Mariana Minuț, Ionela Cătălina Vasilachi, Maria Paiu, European Exhibition of Creativity and Innovation, 14th Edition of EUROINVENT, 26-28 Mai 2022, Palace of Culture, Iasi, Romania, Awarded by the University of Agricultural Science and Veterinary Medicine, Bucharest, Romania.

- **Biographical Presentation and Nominations:**

- "2000 outstanding people of the 20th century", first edition, 1998;
- "International woman of the year" for 1997-2004, by International Biographical Centre -Cambridge, Anglia.
- "WHO's WHO" in Romania, 2002; 2010; 2013
- *Women in Chemistry — Interview with Maria Gavrilăscu*, published in *ChemistryViews*, 3 May 2011, DOI: [10.1002/chemv.201000059](https://doi.org/10.1002/chemv.201000059), on the occasion of 2011 - *the International Year of Chemistry (IYC 2011) and the centenary of Marie Curie's Nobel prize in Chemistry*.

COMPUTER SKILLS AND COMPETENCES	Windows, Word, Excel, Power Point, Corel PhotoPaint, web-browsing
DRIVING LICENSE	B Category

SCIENTIFIC PORTOFOLIO:

a) Publications, conferences, communications, reports:

897 titles as follows:

- 23 books (4 as editor)
- 27 chapters in books of editors (Wiley, Springer, Elsevier, Signpost)
- 11 manuals/student books (printed or in electronic format online)
- papers: 368
 - papers published in ISI ranked journals and Proceedings: 182+37 in ISI Proceedings
 - papers published in peer-reviewed journals included in databases: 110
 - papers published in Proceedings of conferences, peer-reviewed: 39
- conferences and keynotes: 58
- public presentations at national and international scientific events (congresses, symposia, conferences, workshops – posters and oral presentations): 347
- research reports: 51
- patents: 12 (9 of them included in *Derwent Innovations Index*) and 2 patent applications at OSIM, Romania

b) International visibility:

- Web of Science
 - Over 6200 citing references of published papers (over 5400 without self-citations)
 - Hirsch index, H=38
- SCOPUS:
 - over 7100 citations (over 6100 without self-citations)
 - Hirsch index H=39
- Google Scholar:
 - Over 11500 citations
 - Hirsch index, H=50
- included in the Ranking of the first 2% of scientists in the world chosen from 7 million people in 22 fields of activity (published by Stanford University) in the first third of the ranking (42422nd place out of 159784 positions) (evaluated period: 1992-2020 , 193 papers, Environmental Engineering field)
- included in the Ranking of the first 2% of scientists in the world chosen from over 7 million people in 22 fields of activity (published by Stanford University) in the first third of the ranking (38939th place out of over 160000 positions) (evaluated period: 1992 -2021, 210 papers, Environmental Engineering field)
- included in the Ranking of the first 2% of scientists in the world chosen from over 7 million people in 22 fields of activity (published by Stanford University) in the first third of the ranking (37368th place out of over 190000 positions) (evaluated period: 1992 -2022, 228 papers, Environmental Engineering field)

c) organizer/member in committees of conferences, workshops: over 85

d) Erasmus and Erasmus+ agreements – as coordinator: 21 with 14 academic institutions

e) new products and original technologies (implemented to beneficiaries) - 10

f) Research themes/grants of research, development and innovation - 90:

- research themes with industrial companies: 21 (11 as responsible or director, and 10 as member of the research group)
- national grants: 49 (18 as project director)
 - 10 grants awarded by CNCIS (6 as director)
 - 6 grants awarded within PNCDI-I (1 AGRAL, 5 CEEEX type, member)
 - 3 grants awarded within PNCDI-II (IDEI Programme, as director)
 - 8 grants awarded within PNCDI-III (4 as director)
 - 5 grants awarded by the Ministry of Research and Technology (as director)
 - 7 projects co-financed through the Sectoral Operational Program for Development of Human Resources (POSDRU) (expert)
 - 2 projects co-financed through the Human Capital Operational Program (POCU) (expert)
 - 7 institutional development projects (FDI) (expert)
 - 1 project co-financed by the Operation Competitiveness Program (POC) (expert)
- international grants: 11 (9 senior researcher, 3 COST actions)
- 11 grant proposals (as partner, within FP7, H2020, ERA-Net, COST as partner, not funded)

March 2023

Professor Maria Gavrilescu

