Europass Curriculum Vitae

Personal information

First names / Surname: **Gian Andrea BLENGINI**

Address: Via Silvio Pellico 3bis, 10125 TORINO, Italy
Mobile: +39 334 888 3106
E-mail: blengini@polito.it
Nationality: Italian
Date of birth: November 28th, 1969
Gender: Male

Present occupational field

Presently an **Associate Professor** at the **Politecnico di Torino (TU Turin, Italy)**.

Work experience

Dates: **2001 – on**

Occupation or position held: **Associate Professor (2014on)** – Assistant Professor (2001-14)

Main activities and responsibilities: Head of the Life Cycle Assessment (LCA) research group. Main scientific interests in the Sustainable production and use of mineral Resources, Critical Raw Materials and Circular Economy, with emphasis on the application of the LCA-based tools to production systems, waste management and recycling, green innovation for a circular and sustainable industry.
Professor of Life Cycle Assessment and Resources and Environmental Sustainability.
Author of 100+ scientific papers. **Scopus**: H=28, 3703 citations (as of 31JAN2023). **Google scholar**: H=36, 6300+ citations. **Web of Science**: 3 Highly cited papers and 1 Hot paper.

Name and address of employer: **Politecnico di Torino**, Corso Duca degli Abruzzi 24, 10120 TORINO, Italy (www.polito.it).
Department of Environment, Land and Infrastructures Engineering (2011-onward), Department of Production Systems and Business Economics (DISPEA) from 2008 to 2011. Department of Land, Environment and Geo-Engineering (DITAG) from 2001 to 2008.

Type of business or sector: University, research

Dates: **October 2013 – September 2021 (8y)**

Occupation or position held: **Senior researcher and team leader** (Contract Agent**)** in the Land Resources Unit (D3), Sustainable Resources Directorate, European Commission DG Joint Research Centre (JRC).

Main activities and responsibilities (see **Annex 1** for details): Team coordinator in projects and activities (1) in support of EC raw materials policies, with focus on critical raw materials and monitoring of Circular Economy, and (2) targeted to the EU Raw Materials Knowledge Base, including Life Cycle Inventory data availability, coherence and quality.
Main contributions / outcomes:
-Revision of the Methodology for establishing the List of CRITICAL RAW MATERIALS for the EU
-Monitoring Framework for the Circular Economy, COM(2018) 29 final and SWD(2018) 17 final
-Launch of the Life Cycle Data Network, https://eplca.jrc.ec.europa.eu/LCDN
-US-Japan-EU trilateral dialogue on Critical Raw Materials
-The International Round Table on Materials Criticality, IRTC, https://irtc.info
-Revision of the List of CRITICAL RAW MATERIALS for the EU (2020 list).

Name and address of employer: **European Commission** DG JRC, Via Enrico Fermi, 21027 Ispra/Italy (https://ec.europa.eu/jrc/)

Type of business or sector: European institution, research

Dates: **February 1998 - October 2001**

Occupation or position held: **Assistant Professor**

Main activities and responsibilities: Research sector: Excavation and Mining Engineering. Main scientific and academic activities focused on Mining, Quarries and Environmental Reclamation, Excavation Engineering, Mining Equipment. Responsible for the rock mechanics, blast vibrations and geo-resources laboratories.

Name and address of employer: University of Bologna, Viale Risorgimento 2, 40135 BOLOGNA, Italy (www.unibo.it).
Faculty of Engineering, Department of Chemical and Mining Engineering (DICMA).

Type of business or sector: University, research

Dates	**October 1997 - February 1998**
Occupation or position held	**Responsible for Quality, Research and Development.**
Main activities and responsibilities	Production of industrial minerals for the ceramic and glass industries; blast furnace slag recycling.
Name and address of employer	GRUPPO MINERALI SpA, P.za Martiri della Libertà 4, 28100 Novara, Italy (www.gruppominerali.com)
Type of business or sector	Industry, Industrial minerals production
Dates	**January 1997 – October 1997**
Occupation or position held	**Tunnelling Engineer**
Main activities and responsibilities	Excavation of the Bolu Tunnel (Istanbul-Ankara motorway) in **Turkey**. Coordinator of Geotechnical Monitoring, Topographical survey, Geological survey, Rock & Soil laboratory.
Name and address of employer	ASTALDI SpA, Via Giulio Vincenzo Bona 65, 00156 Rome, Italy (www.astaldi.com).
Type of business or sector	Construction of road infrastructure
Dates	**September 1994 – December 1996**
Occupation or position held	**Drilling Expert and Project Manager**
Main activities and responsibilities	Water well drilling and water supply projects in **Ethiopia** framed within international co-operation activities financed by the European Union and the Italian Ministry of Foreign Affairs
Name and address of employer	Italian NGOs: COOPI, Via De Lemene 50, 20151 Milan, Italy (www.coopi.org) and LVIA, corso IV Novembre 28, 12100 Cuneo, Italy (www.lvia.it).
Type of business or sector	International co-operation with developing countries

Education and training

Dates	**2002-2006**
Title of qualification awarded	**PhD in Mining Engineering**
Principal subjects/occupational skills covered	Final dissertation: "Life Cycle Assessment tools for Sustainable Development: case studies for the mining and construction industries in Italy and Portugal". Doctoral fellowship awarded by FCT (Portuguese Ministry of Science and Technology).
Name and type of organisation providing education and training	IST-Technical University of Lisbon, Lisboa, Portugal (www.ist.utl.pt)
Dates	**1988-94**
Title of qualification awarded	**MSc in Mining Engineering** (1st class honours degree, mark 110/110lode)
Principal subjects/occupational skills covered	Thesis: "Evolution of controlled blasting in the mining and civil sectors". G. Axerio Foundation fellowship awarded for academic excellence in 1991-92-93.
Name and type of organisation providing education and training	Politecnico di Torino (Technical University of Turin), Torino, Italy (www.polito.it). (*Ecole Nationale Supérieure des Mines de Paris, Paris, France - Six months Erasmus Exchange in 1992)*

Personal skills and competences

Mother tongue **Italian**

Other languages

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
English	C1	proficient user	C1	proficient user	C1	proficient user	C1	proficient user	C1	proficient user
French	B2	independent user	B2	independent user	B2	independent user	B2	independent user	A2	basic user
Portuguese	B2	independent user	B2	independent user	B1	independent user	B1	independent user	A2	basic user

(*) Common European Framework of Reference for Languages

Social skills and competences	Excellent abilities in communication and teamwork, including in stressful or multicultural environments. These social skills were highly developed during studies, training, and work abroad, starting with the Erasmus exchange programme (1992), the subsequent periods of work in international co-operation projects in Ethiopia (1994-1996), in civil infrastructure projects in Turkey (1997) and during visiting research / teaching experiences in Portugal (2002-2006) and Burkina Faso (2011-12). Positive experience of living abroad for long periods in Ethiopia, Turkey and Portugal.
Organisational skills and competences	Organisational skills gained as the lead of the LCA research group of the Politecnico di Torino and as team coordinator at the JRC of the European Commission. Additional organisational skills were gained in medium to large scale international research projects where I have extensively applied Life Cycle Assessment in quite different fields, ranging from sustainable supply of natural resources to recycling and waste management, including agri-food chain management, low energy buildings and development of nanotechnologies, always using a cross-cutting approach in order to facilitate the work of multidisciplinary research teams, with the objective of obtaining effective engineering solutions to sustainable development challenges that can be applied in different countries and areas of the world (see Annexes).
Other Appointments	
European Innovation Partnership on Raw Materials (2012-2016)	Appointed by the **European Commission - DG Enterprise and Industry** - Unit Raw Materials, Metals, Minerals, and Forest-based industries - as a member of the Expert Operational Group 4 of the European Innovation Partnership on Raw Materials - http://ec.europa.eu/enterprise/policies/raw-materials/innovation-partnership/index_en.htm
EIT Raw Materials (2021on)	Appointed by Politecnico di Torino as scientific responsible and contact person with the European Institute of Innovation and Technology on Raw Materials.
European Commission (2022-23)	Appointed as a **Rapporteur** for the **2023 list of CRMs for the EU** by the Energy-Intensive Industries and Raw Materials Unit in the European Commission's Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs.
Memberships	SOMP: Society of Mining Professors. Member since 2006 GEAM: Geo-resources and Environment Association. Member since 1989
Editorial board membership	Editorial board member of: • International Journal of Mining Science and Technology (Elsevier) - ISSN: 2095-2686 - http://www.journals.elsevier.com/international-journal-of-mining-science-and-technology/editorial-board/ • International Journal of Sustainable Society (IJSSoc) - ISSN: 1756-2546 - http://www.inderscience.com/browse/index.php?journalCODE=ijssoc • Resources (MDPI) ISSN: 2079-9276, https://www.mdpi.com/journal/resources/editors
Referee for peer reviewed journals	Regularly reviewing for (selection): • Resources Policy (Elsevier) • International Journal of Life Cycle Assessment (Springer) • Environmental Science & Technology (ACS) • Journal of Environmental Management (Elsevier) • Journal of Cleaner Production (Elsevier) • Journal of Industrial Ecology (Springer) • Resources, Conservation and recycling (Elsevier) • Waste Management (Elsevier) • Building and Environment (Elsevier) • Resources (MDPI) • International Journal of Sustainable Society (Inderscience Pub)
Annexes	Annex 1: Main activities at the JRC on Critical Raw Materials and Circular Economy Annex 2: Research interests and cross-disciplinary scientific approach Annex 3: Research Projects in the field of Resources, Circular Economy, Recycling and LCA Annex 4: Publication list, Awards and Citations Annex 5: Visiting professor and international teaching network Annex 6: Teaching appointments at the Politecnico di Torino (selection)

Europass Curriculum Vitae

Annex 1 Main activities at the JRC on Critical Raw Materials and Circular Economy

At the Joint Research Centre (DG-JRC) of the European Commission, starting from 2013, I have launched a new raw materials project and created a new research group in support of the EU raw materials policy. Thanks to my expertise in the area, my initial contacts and negotiation skills I started and substantially contributed to consolidate a long-term partnership between DG-JRC and the Directorate General in charge of the EU raw materials policy in Brussels (DG-GROW), which progressively grew in terms of mutual trust, policy relevance and **budgetary size (5.4 M€).**

For several years I have been the front man in the dialogue between JRC and GROW, as well as with international partners. My role, as below described, has been openly and publicly recognized several times by GROW and JRC. As my best achievement, I believe to have contributed to building mutual trust with several colleagues, creating and empowering a strong, efficient and motivated team.

The following are major contributions to the JRC activities in support of Critical Raw Materials (CRMs) and monitoring of Circular Economy policy dossiers:

Activity (1): Support to DG-GROW in the context of the **Revision of the METHODOLOGY to identify the List of CRITICAL RAW MATERIALS for the EU**, in order to meet policy needs. A JRC team (15+ staff) revised the EC methodology to calculate the supply risk and the economic importance. A number of scientific approaches and methodologies have been considered and tested, including the search for suitable data and methods for filling data gaps. Outcomes are summarized in:

> *Blengini, G., Blagoeva, D., Dewulf, J., Torres de Matos, C., Nita, V., Vidal-Legaz, B., Latunussa, C., Kayam, Y., Talens Peirò, L., Baranzelli, C., Manfredi, S., Mancini, L., Nuss, P., Marmier, A., Alves-Dias, P., Pavel, C., Tzimas, E., Mathieux, F., Pennington, D., Ciupagea, C., 2017.* ***Assessment of the Methodology for Establishing the EU List of Critical Raw Materials-Background report****. Publications Office of the European Union, Luxembourg.*

> *Blengini, G.A., Nuss, P., Dewulf, J., Nita, V., Peirò, L.T., Vidal-Legaz, B., Latunussa, C., Mancini, L., Blagoeva, D., Pennington, D., Pellegrini, M., Van Maercke, A., Solar, S., Grohol, M., Ciupagea, C., 2017.* ***EU methodology for critical raw materials assessment: Policy needs and proposed solutions for incremental improvements****. Resour. Policy 53. https://doi.org/10.1016/j.resourpol.2017.05.008*

Role: principal scientist and team leader. Interactions with policy DGs. Presentation of the results to ad-hoc working group and stakeholder engagement. Liaising with the international scientific community.

Activity (2): Support to DG-GROW, ENV and ESTAT for the **Monitoring Framework of the Circular Economy**. JRC output: Materials Flow Diagram shown in the COM(2018) 29 final; indicator 1 on self-sufficiency; indicator 7 Contribution of recycled materials to raw materials demand (EOL-RIR).

Role: design and development of the indicators, including finding the data and filling the data gaps. Scientific coordinator, scientific adviser to GROW and ESTAT.

Activity (3): Support to DG-GROW for the **Revision of the List of CRMs for the EU (2017 list).**

Role: Task leader, scientific support in view of the publication of the 2017 list: COM/2017/0490 final.

Activity (4): Sector-Dialogue project between EU and Brazil (MCTIC-JRC Work Programme 2018–2020) on: **Circular economy threats and opportunities for critical materials: the case of niobium**. Environmental, social and economic aspects of supply chains where niobium is produced and used.

Role: JRC lead.

Activity (5): Support to DG-GROW within **US-Japan-EU trilateral dialogue on CRMs** (in 6 annual meetings: 2013 Brussels; 2014 Ames, Iowa; 2015 Tokyo, 2016 Brussels, 2017 Pittsburgh, US; 2018 Tokyo).

Role: scientific adviser to GROW (Director C), representing JRC in EU and extra-EU annual meetings in front of the international scientific community

Activity (6): Support to DG-GROW for the Report "**Recovery of critical and other raw materials from mining waste and landfills**". Specific EC commitment of the Circular Economy Action Plan COM(2015) 614 final.

Role: principal scientist and technical coordinator. Coordination with policy DG and stakeholder engagement.

Activity (7): Support to DG-GROW for the **Revision of the List of CRITICAL RAW MATERIALS for the EU (2020 list)**. A JRC team (8 staff + 6 external experts) carried out the criticality assessment starting in Q1 2019 until the 4th revised list Of CRMs was published in Sept 2020.

Role: principal scientist and JRC team leader. Interactions with policy DG. Presentation of the results to ad-hoc working group and stakeholder engagement.

Activity (8): IRTC - **The International Round Table on Materials Criticality**, IRTC (www.irtc.info), is an internationalization project funded by EIT Raw Materials, from April 2018 to March 2020. The project aims at advancing criticality assessment on a global level. It brings together the best world-level experts on criticality.

Role: JRC representative.

Europass Curriculum Vitae

Annex 2

Research interests and cross-disciplinary scientific approach

Since graduating at the Politecnico di Torino in 1994, my research activity has addressed different but complementary aspects of *Resources and Environmental Engineering*.

Following a Master Degree thesis on blast vibration control, the four years of professional experience in the sectors of water drilling (Ethiopia), tunnel excavation (Turkey) and production of industrial minerals (Italy) provided sound practical field experience and the opportunity to deepen and extensively apply the engineering background obtained at the Politecnico di Torino.

This professional experience provided foundation for the subsequent research activities at Bologna University (1998-2001), through extensive laboratory investigations on various aspects of blast vibrations, rock mechanics and geo-resource characterisation, as well as field activities related to tunnelling and excavation worksites (mining, quarrying, and civil works).

At the end of the year 2001, I joined the research group focused on *Economics of Earth Resources and the Environment* chaired by Professor Vanni Badino at the Politecnico di Torino. Since then, my research interests have progressively integrated purely Engineering aspects with Economic and Management aspects of Resources and Environmental Engineering.

The above research interests were consolidated during a visiting research period at the IST Technical University of Lisbon from 2002 to 2006, where I was extensively involved in a research programme focused on the Life Cycle Assessment of minerals and construction materials, under the supervision of Prof. Carlos Dinis da Gama, Director of the CEGEO Geotechnical Centre.

Bearing in mind my engineering background, my past and current research is focused on *Engineering and Management of Resources and the Environment*, encompassing the technological aspects, as well as the economic and policy implications of production systems on man-made and natural ecosystems. My past and current main efforts and objectives are devoted to developing and strengthening international collaborative research relationships with the aim of creating interdisciplinary projects involving a mix of science-based investigation, technology transfer, and management or policy recommendations.

As a result, I've been involved in medium to large scale international research projects, in several of which Life Cycle Thinking and Assessment are extensively applied in quite different fields, ranging from sustainable supply of mineral resources to recycling and waste management, including agri-food chain management, low energy buildings and development of nanotechnologies. I've always used a cross-cutting approach to facilitate the work of multidisciplinary research teams, with the objective of obtaining effective engineering solutions to sustainable development challenges and help in the transition towards a more circular and resource-efficient economy.

The 8-year experience at the Joint Research Centre confirmed that working for a European institution provides an extraordinary international and cross-cultural context and is an excellent test field to deepen and improve skills, as well as making use of them. The JRC has therefore been for me a great opportunity to participate in interesting and innovative work and expand my experience. Again, it has been an extraordinary opportunity to know better European institutions from inside, including working in close co-operation with several Directorate-Generals (GROW, ENV, ESTAT, DEVCO, TRADE).

Altogether, my publications and research projects show the results of this cross-sector approach and my capacity to cover different topics such as:

- LCA (Life Cycle Assessment)
- Sustainable engineering
- Recycling and waste management
- Responsible production and use of mineral resources
- Critical Raw Materials
- Monitoring of Circular Economy
- Recovery of CRMs from mining waste

Europass Curriculum Vitae

Annex 3 — Research Projects in the fields of Critical Raw Materials, Circular economy, Recycling and LCA

I have actively engaged in the research projects below, funded by (left) and with the role, responsibilities and budget (right).
In terms of **fundraising capacity**, I have secured to my team at the **JRC 5.4 M€** (3.7 from DG GROW) during the period 2013-2021 and to my team at **PoliTO 2.4 M€** since October 2021.

EUROPEAN COMMISSION (2023-26)

"METALLICO: Demonstration of battery metals recovery from primary and secondary resources through a sustainable processing methodology". Project funded under the call *Innovative solutions for efficient use and enhanced recovery of mineral and metal by-products from processing of raw materials - HORIZON-CL4-2022-RESILIENCE-01-07*. Project coordinator IDENER (Spain), 23 partners. Project budget 13 M€, PoliTO budget 640 k€. PoliTO in charge of developing and test the concept of Net-Zero-Carbon as applied to innovative mineral processing.

Role: PoliTO work-package leader.

EUROPEAN COMMISSION (2023-26)

"mine.io: A Holistic Digital Mine 4.0 Ecosystem ". Project funded under the call *Sustainable and innovative mine of the future - HORIZON-CL4-2022-RESILIENCE-01-06*. Project coordinator GFT-Italia (Italy), 25 partners. Project budget 12 M€, PoliTO budget 311 k€. Main goal: Mine.io solution will build a novel mining digital ecosystem and a systemic structure for the implementation of Industry 4.0 in mining industrial environments. PoliTO in charge of Techno-economic-social assessments, LCA and sLCA as applied to innovative and sustainable mining technologies.

Role: PoliTO project partner and task leader.

EUROPEAN COMMISSION (2022-24)

2BoSS: Toward sustainable batteries based on silicon, sulfur and bio-mass derived carbon. Project funded (1002 k€, PoliTO budget 170 k€) under the call ERA-MIN2. Project partners: Fundacio Institut De Recerca De L'energia De Catalunya (IREC), Spain; Commissariat à l'énergie atomique et aux énergies alternatives (CEA), France; Cleopa Gmbh (CLEOPA), Germany.

Role: PoliTO project partner. LCA and sLCA scientific lead.

Italian Ministry of University and Research (2022-25)

"GeoSciences: the Italian network for geosciences, a new research infrastructure for the Italian network of regional geological surveys" (2022-25) Research project (17 M€, PoliTO 805 k€) funded by the Italian Ministry of University and Research under the call "*Rafforzamento e creazione di Infrastrutture di Ricerca" da finanziare nell'ambito del PNRR*" (28/12/2021). Project coordinated by the Italian Geological Survey (ISPRA) and run with 16 partners (3 research institutes and 13 universities). Main goal: using a highly technological cloud infrastructure, GeoSciences will facilitate access to a huge amount of data, services, tools, specifically implemented by project partners, made available to target users to fulfil with their institutional mandate. PoliTO to develop Capacity building activities targeted to public bodies in charge of planning, authorizing and monitoring extractive activities throughout the mine life cycle, from exploration to post-mining closure and land recovery, with emphasis on critical raw materials and their use in a more circular economy.

Role: PoliTO project partner.

EUROPEAN COMMISSION (2023-25)

"AMBER: InnovAtive DeMonstrator for hyBrid-Electric Regional Application". Project funded under the call *HORIZON-JU-Clean-Aviation-2022-01*. Project coordinator GE AVIO SRL (Italy), 22 partners. Project budget 63 M€, PoliTO/DIATI budget 228 k€. Main goal: AMBER (innovative deMonstrator for hyBrid-Electric Regional application) pursues the maturation of hybrid-electric key components and the validation of a product-representative parallel hybrid-electric propulsion system architecture, fuel cell based, for next-generation regional aircraft. PoliTO in charge of sustainability assessment and LCA applied to the innovative technologies..

Role: PoliTO project partner.

IMI-FABI (2022) (industry)	**LCA and carbon footprint of talc.** Development of metrics and measuring instruments to quantify the carbon footprint of talc marketed as various IMI Fabi (https://www.imifabi.com/) products and with various modes of transport and packaging systems and routes. Industry funds 20 k€.
Role:	Project leader.
ENI (2022) (industry)	"**Life Cycle Assessment (LCA) of batteries for HEAVY DUTY electric vehicles"** and "**Key raw materials for traction batteries and fuel cells"**: current situation and future trends in the EU and globally". Research funded by ENI (https://www.eni.com/en-IT/home.html). Industry funds 63.5 k€.
Role:	Project leader
Manteco (2022) (industry)	**LCA of recycled wool.** Development of metrics to quantify the carbon footprint of recycled wool used in high-standard textile products by Manteco (https://manteco.com/mwool/). Industry funds 45 k€.
Role:	Project leader.
EUROPEAN COMMISSION (2020-24)	**GAIN4CROPS: Rewiring photorespiration using natural and synthetic pathways to sustainably increase crop yield, Project Number 862087.** Project budget 3.7 M€, PoliTO budget 50 k€. G4C aims to increase the productivity of plants by using new techniques to minimize the inefficiencies of photorespiration. PoliTO will be responsible for quantifying the environmental and social impacts of the processes identified by the project partners.
Role:	LCA and sLCA scientific lead.
PNA / Confindustria Marmomacchine (2022) (industry)	**LCA of ornamental stones.** Development of metrics and environmental communication strategies to be used at sector level by ornamental stone producers. Project funded by PNA (Pietra Naturale Autentica) https://www.assomarmomacchine.com/en/pietra-naturale-autentica/. The Pietra Naturale Autentica network is an innovative organization based on a voluntary network to create projects and communication work promoting the use of authentically natural stone materials. Project budget (industry funds) 55 k€ of which 16.5 k€ for LCA activities.
Role:	PoliTO project partner leader.
EUROPEAN COMMISSION (2021)	**HYENA.** JRC project in support of the **Fuel Cells and Hydrogen 2 Joint Undertaking (FCH 2 JU).** The project (internal European Commission budget, 12 person-month, 110 k€) consists in providing scientific support to three H2020-funded projects, with emphasis on Life Cycle Assessment, ecodeign and Critical Raw Materials. **BEST4HY:** Sustainable Solutions for Recycling of EoL Hydrogen Technologies. **eGHOST:** Establishing Eco-design Guidelines for Hydrogen Systems and Technologies. **SH2E**: Sustainability Assessment of Harmonised Hydrogen Energy Systems: Guidelines for Life Cycle Sustainability Assessment and Prospective Benchmarking.
Role:	JRC scientific lead and contact person for BEST4HY.
EUROPEAN COMMISSION (2021)	**MEErP (Methodology for Ecodesign of Energy-related Products).** JRC to critically discuss the current assessment of Critical Raw Materials (CRMs) within the MEErP and propose a new approach, including some preliminary elements to assess the CRMs contained in product groups in Ecodesign Preparatory Studies. Internal European Commission budget, 24 person-month, 220 k€.
Role:	JRC scientific lead
EcoTyre (2020) (industry)	"**Life Cycle Assessment (LCA) of recycled tyres**". End-of-Life tyres recycled into tyres (closed loop recycling). Research funded by EcoTyre Scrl (https://www.ecotyre.it/). Industry funds 25 k€.
Role:	Project leader
Regione Piemonte (2019-21)	**INTREC**: **Innovative technologies for the use of aggregates from construction and demolition waste in road construction:** construction techniques, field performance, life cycle assessment and environmental monitoring. Budget 300 k€ funded by Regione Piemonte through F.E.S.R. 2014/2020.
Role:	LCA scientific lead.
EUROPEAN COMMISSION (2019)	**"Recovery of critical and other raw materials from mining waste and landfills".** JRC report as a specific EC commitment of the Circular Economy Action Plan COM(2015) 614 final. Internal European Commission budget, 6 person-month, 55 k€.
Role:	principal scientist and technical coordinator. Coordination with policy DG and stakeholder engagement.
EUROPEAN COMMISSION (2018-20)	The **International Round Table on Materials Criticality, IRTC** (www.irtc.info). Internationalization collaborative project funded by EIT Raw Materials (860 k€), from April 2018 to March 2020. The project aims at advancing criticality assessment on a global level. It brings together the best world-level experts on criticality.
Role:	JRC representative

EUROPEAN COMMISSION (2018-20)	**4th list CRMs for the EU.** Revision of the List of CRITICAL RAW MATERIALS for the EU (2020 list). A JRC team (8 staff + 6 external experts) carried out the criticality assessment from Q1 2019 until the 4th revised list Of CRMs was published in Sept 2020. Budget 500 k€ (part of a larger contract 5.4 M€).
Role:	principal scientist and JRC team leader. Interactions with policy DG. Presentation of the results to ad-hoc working group and stakeholder engagement.
EUROPEAN COMMISSION (2018-20)	Sector-Dialogue project between EU and Brazil (MCTIC-JRC Work Programme 2018–2020) on: **Circular economy threats and opportunities for critical materials: the case of niobium**. Environmental, social and economic aspects of supply chains where niobium is produced and used, in collaboration with CETEM Rio de Janeiro. Budget 200k€ (to the Brasilian partners) + Internal European Commission budget, 6 person-month, 55 k€.
Role:	JRC lead.
EUROPEAN COMMISSION (2018-20)	**SCRREEN: Solutions for CRitical Raw materials - a European Expert Network.** Project funded by the European Commission under the H2020 funding program. Project budget 2 M€ (JRC budget 150 k€). 30 partners from 15 countries, coordinator Stephane Bourg (French Alternative Energies and Atomic Energy Commission - CEA). Project objective: Establish an EU expert network covering the entire value chain for present and future critical raw materials.
Role:	JRC representative.
EUROPEAN COMMISSION (2016-19)	**GREENFACTORY4COMPO - Green Factory for Composites.** Budget 13 MEuro, of which 5.7 MEuro from Regione Piemonte via "Piattaforma Fabbrica Intelligente". Project aimed at finding innovative manufacturing solutions to increase the use of high-performance composite polymeric materials in an environmentally friendly manner, managing to combine technical benefits with costs / investments, with sustainable environmental and energy impact. PoliTO partner (budget ~400 k€, of which 50 k€ for LCA activities), lead-partner CRF.
Role:	LCA scientific lead.
ENI (2018) (industry)	"**Life Cycle Assessment (LCA) studies on batteries for electric vehicles**: overview and recent developments" and "**Key raw materials for electric vehicles batteries**: current situation and future trends in the EU and globally". Research funded by ENI. Industry funds 17.5 k€.
Role:	Project leader
ENI (2017) (industry)	"**Life Cycle Assessment (LCA) of bio-lubricants**". Research funded by ENI. Industry funds 125 k€.
Role:	LCA scientific lead
EUROPEAN COMMISSION (2015-17)	Revision of the **METHODOLOGY to identify the List of CRITICAL RAW MATERIALS for the EU**. A JRC team (15+ staff) revised the EC methodology to calculate the supply risk and the economic importance. A number of scientific approaches and methodologies have been considered and tested, including the search for suitable data and putting forward methodologies for filling data gaps, in order to meet policy needs. Budget 376 k€.
Role:	Principal scientist and team leader
EUROPEAN COMMISSION (2015-16)	**Raw Materials Scoreboard (2016).** "Technical assistance, analysis and support for the implementation of the Monitoring and Evaluation Scheme of the European Innovation Partnership (EIP) on Raw Materials". Output: 24 indicators. Policy contest: Monitoring of policies; Identifying criteria and indicators for monitoring policy impact; Identifying and assessing data sources and limitations for monitoring and evaluation. Budget 250 k€.
Role:	JRC scientific responsible and team leader, liaising with the policy DG
EUROPEAN COMMISSION (2013-14)	**"Launch of the Life Cycle Data Network LCDN"** (6th of February 2014). "LC Data dossier" – projects and related activities targeted to enhance Life Cycle data availability, coherence and quality through the LCDN (Life Cycle Data Network) and the ELCD (European reference Life Cycle Database). Improving data availability for EU policies, Greening the Single Market. Internal European Commission budget, 36 person-month, 330 k€.
Role:	JRC scientific responsible and team leader
EUROPEAN COMMISSION (2012-14)	**"SNAP-SEE - Sustainable Aggregates Planning in South East Europe"**. Collaborative project financed by the European Commission (1.7 M€) under the Programme "South East Europe SEE", contract SEE/D/0167/2.4/X, run in co-operation with 27 European partners (Project leader: Univ of Leoben, Austria – Dr. Guenther Tiess). http://www.snapsee.eu/. Sub-contractor (45 k€) of the ERDF partner Provincia Autonoma di Trento (Dr. Alessandro Moltrer). Scientific support on developing and disseminating tools for aggregates management planning in Southeast Europe (SEE).
Role:	LCA task leader. Coordination and linkage with the steering committee. Member of the quality board.

ESA-ESTEC (2012-13)	**"LCA4space - Life Cycle Assessment of Space Projects"** (2012). Tender of the European Space Agency (AO/1-6862/11/F/MOS). Consortium co-ordinated by D'Appolonia Spa in co-operation with Politecnico di Torino, EMPA (Swiss Federal Laboratories for Materials Science and Technology), GreenDeltaTC Berlin and The Institute of Environment and Sustainability (IES) of the Joint Research Centre of the European Commission. Tender budget 170 k€.
Role:	Scientific lead for the methodological aspects in the implementation of LCA in aerospace projects.
Italian Ministry of Environment (2012-14)	**"Biofuels from Algae for Sustainable Mobility in Urban Areas BIOALMA"** (2012-14) Research project (700 k€) funded by the Italian Ministry of Environment under the call "*Bando per il finanziamento di progetti di ricerca finalizzati ad interventi di efficienza energetica e all'utilizzo delle fonti di energia rinnovabile in aree urbane*" (GU 297 del 22/12/2009). Project run in partnership with Politecnico di Torino, University of Catania and Sea Marconi Spa under the coordination of Dr Gian Andrea Blengini (Politecnico di Torino).
Role:	Consortium co-ordinator.
EUROPEAN COMMISSION (2010-13)	**"AddNano: The Development and scale-up of innovative nanotechnology-based processes into the value chain of the lubricants market"** (2009-12). EU/FP7 Project (11 M€) funded under the call FP7-NMP-2008-LARGE-2 - Project No 229284- and run by 15 partners under the coordination of Dr Martin Dare-Edwards (Infineum UK Ltd.) and Dr Gül Özcan-Taşkın (BHR Group). Use of the LCA methodology (budget for LCA 55 k€) to conduct a detailed environmental evaluation of nanolubricants investigated in the project, covering the whole lifecycle of the additive concentrates and lube oils.
Role:	Scientific lead for LCA and Task leader.
EUROPEAN COMMISSION (2010-13)	**"BioLear: Full scale use of liquid injection, for innovative control of waste moisture to enhance biogas production in pre treated waste landfill"**. EU Project (2.4 M€) funded under the call LIFE+ 2009 - ENV/IT/000101 - and run by GAIA SpA and Politecnico di Torino. Use of the LCA methodology to understand and lower the carbon footprint of biogas produced from a pre-treated municipal solid waste landfill.
Role:	Scientific lead for LCA and Activity leader (2010-11).
Regione Piemonte (2010-13)	**"SAFE FOOD CONTROL: Development of new technologies to enhance energetic and environmental sustainability of agri-food chains in Piedmont"**. Large scale Research Project (6.4 M€) funded by Regione Piemonte under the funding scheme FESR/FEASR and run by 13 partners under the coordination of Prof. Maria Lodovica Gullino, Director of AGROINNOVA, the Centre of Competence for the innovation in the agro-environmental field of the University of Turin. Use of the LCA methodology to improve the energetic and environmental sustainability of agri-food industries with emphasis on fruit and vegetables.
Role:	Scientific lead for LCA and Task leader.
Italcementi Group (2010) (industry)	**"LCA of MISAPOR BETON"**. Research contract financed by CTG SpA (Italcementi Group) and run in cooperation between CTG SpA, SASIL SpA and Politecnico di Torino as follow-up of the NOVEDI Project (see "LCA of the MISAPOR foam glass" below). Industry funds 20 k€. Use of the LCA methodology to support the development of new high energy efficiency building products manufactured from waste glass.
Role:	Scientific lead for LCA.
EUROPEAN COMMISSION (2009-11)	**"SARMa - Sustainable Aggregates Resource Management"**. Collaborative project financed by the European Commission (2 M€) under the call "South East Europe SEE Programme 2007–2013", contract SEE EoI/A/151/2.4/X, run in co-operation with 14 European partners (Project leader: Geological Survey of Slovenia – Dr. Slavko Šolar). http://www.sarmaproject.eu/. Use of the LCA methodology to promote recycling and energy and resources efficiency of the sustainable supply mix (SSM) of aggregates in EU countries.
Role:	Scientific lead for LCA and Activity leader.
Provincia di Cuneo (2009)	**"Life Cycle Assessment (LCA) of the integrated municipal solid waste management system of the Cuneo District"**. Research financed by ATO-Rifiuti Provincia di Cuneo, run in co-operation between DITAG and DISPEA of the Politecnico di Torino. Budget 25 k€. Research programme focused on the implementation of a LCA model of the Integrated Waste Management System (WMS) as a decision supporting tool for future waste management planning and optimisation issues.
Role:	Project coordinator.

SASIL SpA / EUROPEAN COMMISSION (2008-9)	**"LCA of the MISAPOR foam glass"**. Research framed within the EU Project NOVEDI "No Vetro in Discarica: demonstrating innovative technologies for integral recovery of glass rejects", funded under the call LIFE+ 2007-ENV/IT/00361 - and run by SASIL SpA and Politecnico di Torino (sub-contractor, budget for LCA 25 k€). Use of the LCA methodology to analyse the life cycle of a recycled foam glass (Misapor) and address eco-design of a low energy office building.
Role:	Scientific lead for LCA.
Regione Piemonte (2008-9)	**"Sustainable recycled aggregate chain management"**. Research funded (15 k€) by Regione Piemonte under the call "Voucher 2007", in partnership with Politecnico di TO, Provincia di TO and CMA Srl. Use of the LCA methodology to understand environmental burdens of the whole construction & demolition waste (C&DW) recycling chain and set up a pilot recycling plant.
Role:	Project coordinator.
Provincia di Torino (2008)	**"Life Cycle Assessment (LCA) of the integrated municipal solid waste management system of the Turin District"**. Research financed by Provincia di Torino, run in co-operation between DITAG and DISPEA of the Politecnico di Torino. Budget 19 k€. Research programme focused on the implementation of a LCA model of the Integrated Waste Management System (WMS) as a decision supporting tool for future waste management planning and optimisation issues.
Role:	Project coordinator.
Regione Piemonte (2007-8)	**"Development of an industrial process for quarrying and finishing an ornamental stone of historical interest (Pietra di Vico)"**. Research programme funded by the Regione Piemonte (LR 598/94), run in co-operation between DITAG of the Politecnico di Torino and Rivarossa Srl. Budget 15 k€. Industrial research and technological transfer project aimed at optimising the diamond wire cutting technology at a small-scale quarrying activity for the valorisation of a high added value natural resource.
Role:	Project coordinator.
Regione Piemonte (2007)	**"Life Cycle Assessment (LCA) of a low energy house"**. Research run in co-operation between DITAG of the Politecnico di Torino and Studio Roatta Architetti – Mondovi'. Collaborative project funded in-house. Detailed life cycle assessment of a residential passive house located in southern Piedmont (Italy). The main objective of the research was evaluating energy saving and greenhouse emissions of a very low energy building in comparison with a standard house.
Role:	LCA scientific lead.
Fondazione CRT (2006-7) (bank)	**"Life Cycle Assessment (LCA) of the integrated municipal solid waste management system of the Asti District"**. Research financed by Lagrange– C.R.T. Foundation, run in co-operation between DITAG of the Politecnico di Torino and GAIA. SpA. Budget 25 k€. Research programme focused on the implementation of a LCA model of the Integrated Waste Management System (WMS) as a decision supporting tool for future waste management planning and optimisation issues.
Role:	LCA scientific lead.
SANPAOLO-IMI (2006) (bank)	**"Life Cycle Assessment (LCA) of the San Paolo-IMI tower in Turin"**. Research run in co-operation between DITAG and DENER of the Politecnico di Torino, Estudio Lamela Arquitectos - Madrid and SiTi (Istituto Superiore sui Sistemi Territoriali per l'Innovazione). Collaborative project funded in-house. LCA application to the preliminary design of the San Paolo Tower in Turin as a supporting tool in order to address the overall building sustainability.
Role:	LCA expert.
Consorzio ECOVORBAT (2006) (industry)	**"Eco-balance of an exhausted lead-acid batteries recycling plant"**. Research contract funded (15 k€) by Consorzio Ecovorbat –Euroconsorzio Ambiente, Rivoli TO. Research focused on the environmental life cycle assessment of spent lead-acid battery recycling and subsequent recovery of secondary raw materials (lead, plastic, acid).
Role:	Project coordinator.
Italian Ministry of University and Research (2004-6)	**"Economic and environmental constraints to improve cultural sustainability of ornamental stones".** National Research Project financed by MIUR (Italian Ministry of University and Research) within the Call PRIN2004. PoliTO budget 40 k€. Objective of the Research Unit of the Politecnico di Torino was to investigate on the sustainability of active and historical ornamental stone quarries located in southern Piedmont.

Europass Curriculum Vitae

Annex 4 Publication list, Awards and Citations

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2022 M GANDIGLIO, P MAROCCO, I BIANCO, D LOVERA, GA BLENGINI, M SANTARELLI. Life cycle assessment of a renewable energy system with hydrogen-battery storage for a remote off-grid community. International Journal of Hydrogen Energy 47 (77), 32822-32834

2022 L TEFA, I BIANCO, GA BLENGINI, M BASSANI. Integrated and comparative Structural-LCA analysis of unbound and cement-stabilized construction and demolition waste aggregate for subbase road pavement layers formation. Journal of Cleaner Production 352, 131599

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2019 G MORAGA, S HUYSVELD, F MATHIEUX, GA BLENGINI, L ALAERTS, K VAN ACKER, ... Circular economy indicators: What do they measure? Resources, Conservation and Recycling 146, 452-461

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2016 S BOBBA, FA DEORSOLA, GA BLENGINI, D FINO LCA of tungsten disulphide (WS2) nano-particles synthesis: state of art and from-cradle-to-gate LCA. Journal of Cleaner Production 139, 1478-1484

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2016 CEL LATUNUSSA, F ARDENTE, GA BLENGINI, L MANCINI Life Cycle Assessment of an innovative recycling process for crystalline silicon photovoltaic panels. Solar energy materials and solar cells 156, 101-111

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2008 BLENGINI G.A.; DI CARLO T, Evaluation of the environmental sustainability of a low energy residential building with the LCA methodology, Proc. Conf. 2nd International Seminar on Society & Materials, SAM2, Nantes 24-25 April 2008, pp. 1-10, 2008

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2007 BADINO V; BLENGINI G.A.; ZAVAGLIA K, Measuring sustainability of building aggregates by means of LCA tools, Prof. Z. Agioutantis (Editor), Sustainable Development Indicators in the Mining Industry (SDIMI 2007), Milos 18-20 June, pp. 145-150, 2007, ISBN: 978-960-6746-00-0

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2003 BADINO V; BLENGINI G.A.; DINIS DA GAMA C, Sustainable Development Indicators as a tool

for monitoring unfair international market competition of mineral commodities, Proc. Conf. SDIMI 2003, Milos Greece May 21-23 2003, pp. 211-216, 2003, ISBN: 960-87054-2-8

2003 BADINO V; BLENGINI G.A., The importance of marble in cultural sustainability, Proc. Conf. SDIMI 2003, Milos Greece May 21-23 2003, pp. 237-242, 2003, ISBN: 960-87054-2-8

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2000 BERRY P; BLENGINI G.A.; TAFARO V.A. FABBRI S, Safety in quarrying ornamental stones by using diamond wire, Proc. Conf. MPES 2000, Athens Greece November 6-9th 2000, pp. 521-526

1994 MANCINI R.; CARDU M.; BLENGINI G.A., Factors affecting blasting accuracy: an analysis of cases of mine drift excavation by drilling and blasting, Proc. Conf. EXPLOSIVES 94, Leeds U.K., 37-47.

Awards received for publications

Inserted in the "**World's 2% Top Scientists**" by the Stanford University:

Awards received for publications

During the 13th International Waste Management and Landfill Symposium - Sardinia 2011, the paper:

2011 BLENGINI G.A., FANTONI M., GENON G., LCA of integrated municipal solid waste management systems: case studies of Torino and Cuneo (Italy), Cisa Publisher (ITA), Sardinia 2011 XIII International Waste Management and Landfilling Symposium, S. Margherita di Pula (CA) 3-7 October, pp. 383-384

was selected by an international committee and given the Giovanni Bozzini Award for the best paper

Awards received for publications

The paper:

2019 A MAYER, W HAAS, D WIEDENHOFER, F KRAUSMANN, P NUSS, GA BLENGINI Measuring progress towards a circular economy: a monitoring framework for economy-wide material loop closing in the EU28. Journal of industrial ecology 23 (1), 62-76

is winner of the 2019 Senior Author Graedel Best Paper Prize, awarded by Journal of Industrial Ecology

Citations received for papers
(from google scholar)

According to the database Google Scholar, as of Jan 2023 Gian Andrea's publications have received **more than 6300 citations**. The two most cited articles have together received 1300+ citations.

Highly cited / Hot papers

(from WOS)

The following 3 papers are classified "Highly cited papers in WOS":

2019 A MAYER, W HAAS, D WIEDENHOFER, F KRAUSMANN, P NUSS, GA BLENGINI Measuring progress towards a circular economy: a monitoring framework for economy-wide material loop closing in the EU28. Journal of industrial ecology 23 (1), 62-76

2010 BLENGINI G.A.; DI CARLO T., The changing role of life cycle phases, subsystems and materials in the LCA of low energy buildings, ENERGY AND BUILDINGS¸ Vol. 42(6), pp. 869-880

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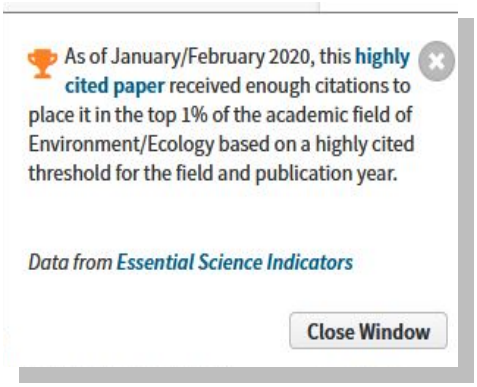
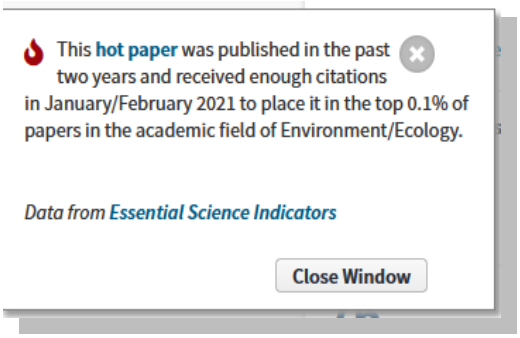
2019 G MORAGA, S HUYSVELD, F MATHIEUX, GA BLENGINI, L ALAERTS, K VAN ACKER, ... Circular economy indicators: What do they measure? Resources, Conservation and Recycling 146, 452-461





Europass Curriculum Vitae

Annex 5 — Visiting professor and international teaching network

EIT Raw Materials Academy
Online (2021)

Online PhD Summer School **Going circular with Critical Raw Materials**. Organised by Politecnico di Milano School of Management and School of PhD Studies, with the support of the Lake Como School of Advanced Studies, SustCritMat project and EIT Raw Materials.
Lecture on: EU Policy and Critical Raw Materials.

European Commission
DG Research & Innovation
Online (2020)

EMP-E 2020 – Modelling Climate Neutrality for the European Green Deal *session:* ***Circularity, use of raw material***.
Lecture on: 2020 list of CRMs for the EU and JRC foresight study on CRMs in strategic sectors.

European Commission
Ispra (VA), Italy
(2018)

JRC TRAINING: **EC METHODOLOGY of CRITICALITY ASSESSMENT** (19 Sep 2018, full day).
Overarching goal of the training: the list of Critical Raw Materials (CRMs) for the EU and the role of JRC as the EC in-house scientific service in (1) keeping the EC methodology up to date and (2) providing scientific and technical support to DG GROW in view of the next list of CRMs for the EU (2020 list).
Target audience: European Commission scientific staff and policy officers.

2iE Foundation
Ouagadougu, Burkina Faso
(2011-14)

Four years **contract professor** (2011-2014) at the **2iE Foundation** - International Institute for Water and Environmental Engineering (http://www.2ie-edu.org) - **Ouagadougu (Burkina Faso)**. Co-operation with the local and international staff to postgraduate teaching activities in the fields of minerals resources and sustainability.

Master in Sustainable Mining / Master Spécialisé en Gestion Durable des Mines. Subjects taught: Minerals Economics; industrial Ecology; Life Cycle Assessment.

Aalto University
TU of Helsinki, Finland
(2012)

Post-graduate seminar on HVAC - Environmental and Energy Aspects of Low-Energy Buildings.

The Department of Energy Technology of Aalto University organised a four-days post-graduate seminar (4-7.6.2012) on Environmental and Energy Aspects of Low-Energy Buildings. Invited international scientists from UK, Italy and India and national experts lectured in the seminar.

Target audience: post-graduate students (Doctoral and Licentiate) in the fields of energy, HVAC, buildings, architecture, as well as consultants and researchers in a broader field of energy and buildings.

Organisers: Prof Kai Siren kai.siren@aalto.fi and Dr. Ala Hasan ala.hasan@aalto.fi

Topics covered: Life Cycle Assessment for Buildings, theoretical and policy aspects and case studies.

Venice International University, AGROINNOVA,
Ministry of Science and Technology of China
(2009-11)

Lecturer in the following advanced training programmes organised by the Italian Ministry for the Environment Land and Sea in cooperation with Venice International University, AGROINNOVA-University of Turin, the Ministry of Science and Technology of China, the Chinese Academy of Social Science and the Shanghai Environmental Protection Bureau.

Target audience: professors and experts of different organizations of the People's Republic of China.

2009 (February): Advanced Training on Environmental Management and Sustainable Development with focus on Solid Waste Management. Subject: Life Cycle Assessment of Municipal Solid Waste.

2009 (June): Advanced Training Program on Environmental Management and Sustainable Development with focus on Environmental Friendly cities. Subjects: (1) Life Cycle Assessment (LCA); (2) Life Cycle of Buildings, Demolition and Recycling Potential.

2009 (October): Advanced Training Program on Environmental Management and Sustainable Development with focus on Capacity Building on Sustainable Development. Subjects: (1) Life Cycle Assessment (LCA) a comprehensive methodology to evaluate environmental sustainability; (2) Life Cycle of built structures and building materials.

2009 (November): Advanced Training Program on Environmental Management and Sustainable Development with focus on Environmental Friendly cities. Subjects: (1) Life Cycle Assessment (LCA) a comprehensive methodology to evaluate environmental sustainability; (2) Life Cycle of built structures and building materials.

2010 (July): Advanced Training Program on Environmental Management and Sustainable Development with focus on New and Renewable Energy. Subject: Carbon Balance and Environmental Comparison of Four Bio-energy Chains.

2010 (November): Advanced Training Program on Environmental Management and Sustainable Development with focus on New and Renewable Energy. Subjects: (1) Life Cycle Assessment (LCA) a comprehensive methodology to evaluate environmental sustainability; (2) Carbon Balance and Environmental Comparison of Four Bio-energy Chains.

2011 (November): Advanced Training Program on Environmental Management and Sustainable Development with focus on New and Renewable Energy. Subjects: (1) Life Cycle Assessment (LCA) a comprehensive methodology to evaluate environmental sustainability; (2) Carbon Balance and Environmental Comparison of Four Bio-energy Chains.

ACR+
(2009-10)

Lecturer in the following advanced training programmes organised by **ACR+**, the **Association of Cities and Regions for Recycling and Sustainable Resource Management** (www.acrplus.org), in co-operation with **Holcim Group** (www.holcim.com).

2009: Experts Seminar on the «Optimal recovery of material and energy resources in the context of waste management». Subject: “Life Cycle Assessment of Integrated Waste Management Systems: Carbon and energy balance of different scenarios for Torino and Cuneo Districts”.

2010: Optimal recovery of material and energy resources: the cases of the rest fraction of municipal waste and sewage sludge. Subject: “LCA of Integrated Waste Management Systems”.

FORGEA-TWAS
(2008-12)

Lecturer on “Life Cycle Assessment as applied to building materials, construction technologies, recycling of construction and demolition waste and treatment of excavated soils” in the 2007, 2008 and 2012 editions of the following FORGEA-TWAS courses.

FORGEA-TWAS is the Training and cooperation centre in the field of geo-mining and environment of the **Third World Academy of Sciences (TWAS)** which was officially launched in 1985 by the then-secretary general of the United Nations, Javier Perez de Cuellar as an autonomous international scientific organization dedicated to promoting scientific capacity and excellence for sustainable development in the South of the world. http://www.twas.org

2007 and 2008. Title of the training course: “Capacity Building in Environment-related Issues: Materials Recovery and Recycling". Topics of the lecture: Life-Cycle-Assessment (LCA) a comprehensive methodology to evaluate environmental sustainability (I) approach & framework (II) theory and practice.

2012. Title of the training course: “Polluted Site Management. Theory and case studies". Topics of the lecture: Management of excavated soils. Part II: Environmental issues.

2013 (Tunisia). Title of the training course: “Waste Management and Treatment – Theory and Practice". Topics of the lectures: (1) Debris beneficiation plants for aggregate production: treatment technologies; (2) Life Cycle Assessment (LCA) applications to the construction sector

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IST Lisbon
(2000-2006)

Visiting scientist and lecturer on the following topics at the IST Instituto Superior Tecnico of the Technical University of Lisbon as part of the programme of studies on Earth Resources Engineering, Civil Engineering and Management Engineering.

- The Italian mineral industry (2000);
- Production of ornamental stones in Italy (2002);
- Life Cycle Assessment (2006).

Europass Curriculum Vitae

Annex 6 Teaching approach and appointments at the Politecnico di Torino

I am currently a member of the board of professors of the **Doctoral School in Civil and Environmental Engineering** of the Politecnico di Torino, in the board of professors of the BSc. in **Environmental Engineering** and MSc. in **Environmental Engineering** and **Geo-resources and Geo-energy Engineering** (former Petroleum and Mining Engineering).

From 2001 to 2008 I actively co-operated with Professor Vanni Badino in teaching activities at undergraduate, master and postgraduate levels. Since 2004, I have been appointed as **principal professor** in **official courses** in various Bachelor, Master Degree, Doctoral and postgraduate programmes as summarised below.

I have been principal advisor or co-advisor of more than 50 Bachelor, Master Degree and PhD theses.

In my 20+ years teaching experience, and taking into account students' feedback, I have been successful in teaching, supervising and mentoring undergraduate to postgraduate students. The feedback and evaluations that I receive from students are encouraging and indicate that the courses I teach are technically sound, well-structured, well taught and exciting. The diverse nature of my audience has helped me shape an approach to teaching that influences and inspires students to learn, responding to the individual student's needs. I have been teaching and supervising students over 50+ different nationalities, having different cultures, experiences and learning styles.

2007-2022 (15 editions)	Life Cycle Assessment (26 hrs – 5 CFU)	*PhD in Civil and Environmental Engineering (50+ participants per year, 85 in 2022)*
2012-2022 (10 editions)	Resources and Environmental Sustainability (90 hrs – 8 CFU in English)	*Master Degree in: Environmental Engineering; Petroleum and Mining Engineering; Chemical Engineering; Energy and Nuclear Engineering*
2008-2012 (5 editions)	Principles of Business Economics (30 hrs)	*Postgraduate Master in Petroleum Engineering*
2008-2012 (5 editions)	Resources and Environmental Economics (90 hrs – 8 CFU in English)	*Master Degree in Environmental Engineering and Master Degree in Petroleum Engineering*
2008/2010 (2 editions)	Applied Economics (56 hrs – 5 CFU)	*Bachelor in Environmental Engineering*