

# LUISA PAOLOTTI

Department of Agricultural, Food and Environmental Sciences – **Section of Bio-Economics**

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Date of birth: February 3th, 1982 Citizenship: Italian

## RESEARCH INTERESTS

Sustainable development; Sustainability analysis and evaluation; Environmental Economics; Agro-environmental economics; Environmental Assessment; Life Cycle Assessment (LCA) of processes and products; Life Cycle Costing (LCC) of processes and products; Ecological Footprint; Circular Economy; Multi-criteria Decision Analysis (MCDA); Spatial Multi-criteria Decision Analysis; Multi-objective Optimization; Optimization in farm management; Rural Economics and Appraisal.

## CURRENT POSITION

From November 2022 RTD-B researcher (tenure-track assistant position) at Department of Agricultural, Food and Environmental Sciences – Section of Bio-Economics. University of Perugia.

## RESEARCH AND PROFESSIONAL EXPERIENCE

Nov 2009 – 2022	University of Perugia. Post Doc position at Department of Agricultural, Food and Environmental Sciences.
Nov 2017	Universidad Miguel Hernández de Elche (Alicante). Research fellow, Invited Researcher.
Nov 2015 – Dic 2015	Universidad Miguel Hernández de Elche (Alicante). Research fellow, Invited Researcher.
Oct 2008 – Feb 2009	Universidad Politécnica de Madrid (Escuela Técnica Superior de Ingenieros Agrónomos). Erasmus fellow, Visiting PhD.

## EDUCATION

Nov 2006 – Feb 2010	University of Perugia, PhD in <i>Agri-food Economics and Policy</i> .
Nov 2003 – Apr 2006	University of Perugia, Master's Degree in <i>Economics and Management of Agri-food, Environmental and Territorial Systems</i> . 110/110 <i>summa con laude</i> .
Nov 2000 – Feb 2004	University of Perugia, Bachelor's Degree in <i>Rural Development and Agriculture</i> . 110/110 <i>summa con laude</i> .

## **ASSOCIATIONS**

MCDM - International Society on Multiple Criteria Decision Making

AMASES - Association for Mathematics Applied to Social and Economic Sciences (2017-2020)

Ce.S.E.T. - Research Centre for Appraisal and Land Economics

SIDEA - Italian Society of Agricultural Economics

Italian Life Cycle Assessment (LCA) Network

## **LANGUAGES**

Italian: native speaker; English: fluent (TOEFL 2008, score 100/120);

Spanish: fluent (DELE 2009 - Diploma de Español como Lengua Extranjera, level B2, score 95.58/100).

## **DIGITAL COMPETENCIES**

Proficient user of main productivity suites (MS Office, Libreoffice).

Proficient user of SimaPro (LCA studies); Basic user of LINGO, GIS open-source Grass, Qgis.

## **REFeree WORK AND EVALUATION OF RESEARCH PRODUCTS**

Referee for the Journals: Journal of Cleaner Production; Journal of Environmental Management; Sustainability; Aestimum; Environment, Development and Sustainability; Energy Policy; Sustainable Production and Consumption; Environmental Science and Pollution Research; Land; Clean Technologies and Environmental Policy; Environmental Impact Assessment Review.

2009 Member of the Editorial Board of Ecoinvent Database - "Geographical co-editor" for Italy.

2020-2021 Guest Editor for Sustainability Journal, Special Issue: "Sustainability in Agricultural System and Ecosystem Services" (ISSN 2071-1050).

2022 Editor for Sustainability Journal, Collection: "Sustainability in Agricultural System and Ecosystem Services".

## **INTERNATIONAL ADVANCED COURSES ATTENDED**

Jan 22, 2014 International MCDA workshop on PROMETHEE: research and case studies. Vrije Universiteit Brussel (VUB), Bruxelles.

Jul 22-Aug 2, 2013 11th MCDA/M Summer School. Helmut-Schmidt University (HSU), Hamburg.

Sept 20-23, 2010 Workshop "Sustainable behaviours in food chains: organizational, marketing and environmental aspects". University of Perugia.

Apr 9-14, 2010	Cost IC0602 International Doctoral School “Algorithmic Decision Theory: Computational Social Choice”. Instituto Superior Técnico of Lisbon.
Apr 18-22, 2009	Cost IC0602 International Doctoral School “Advanced Topics in Decision Theoretic Artificial Intelligence”. University College of Cork.
Feb 2-6, 2009	Winter school and Advanced course “Perspectives in the Analysis of Agri-Food Network Relationships”. University of Perugia.
Oct – Dic 2008	Course of Spanish for Science and Technology, level B1.2 (B) (45 hours) of MCERL (Marco Común Europeo de Referencia para las Lenguas). Final score: Excellent - 10. Universidad Politécnica de Madrid.
Apr 21-24, 2008	International Course: “Land and Water Resources Management: Irrigated Agriculture”. CIHEAM (International Centre for Advanced Mediterranean Agronomic Studies), Bari.
Apr 11-16, 2008	Cost IC0602 International Doctoral School “Algorithmic Decision Theory: MCDA, Data Mining and Rough Sets”. University of Catania.
Sept 17-21, 2007	Summer School: “Institutions and Organizations in the European Agri-food Systems: Economic and Sociological Approaches”. University of Perugia.

#### **OTHER ADVANCED COURSES ATTENDED**

Jun 19-21, 2017	Life Cycle Assessment course 2017. University of Siena.
Dic 13, 2016	Webinar “Methodological developments in LCA”. Group “Development and Improvement of LCA methodology: Research and Exchange of experiences” of Italian LCA Network.
Jun–Sept 2012	Training course on “Management of territorial data through open source GIS”. Umbrian Regional Observatory for Biodiversity, Rural landscape and Sustainable Planning.
Apr 2012	Advanced course on “Management of research projects”. Project Tekla – The European Knowledge Legal Area. University of Perugia.
Dic 2011	Advanced course on “Technological transfer”. Program Fixo, University of Perugia.
Mar 24, 2011	Training course on “SISTRIS system for waste traceability: management and operational instruments. CESAR – Centre for Rural and Agricultural Development. Casalina di Deruta (Perugia).
Dic 2008–Sept 2009	Advanced Course “Expert in Free and Open source GIS for management, analysis and publication of territorial data. Foligno Center Study (Perugia).
Sept 8-10, 2008	Summer school “Methodology of research in Social Sciences and Agricultural Economics. Italian Society of Agricultural Economics and CIHEAM (International Centre for Advanced Mediterranean Agronomic Studies), Bari.
Jul 2008	Spanish course for Erasmus students (40 hours), level B1. University of Perugia.
Jan–Jun 2008	Spanish course – entry level. Crocevia Linguistico, Perugia.

May 31, 2007	The new legislation on water protection. CESAR – Centre for Rural and Agricultural Development. Casalina di Deruta (Perugia).
Jan–Apr 2007	Training course for preparation to TOEFL (Test of English as a Foreign Language). University of Perugia.
Feb 15-16, 2007	Course “LCA & SimaPro 7”. 2B Consulting - Mogliano Veneto (TV).
Mar–May 2006	First level for Sommelier. Italian Association of Sommelier, Perugia.

## RESEARCH PROJECTS AND GRANTS

2020 – On going:	<b>European Project “LIFE IMAGINE UMBRIA Integrated Management and Grant Investments for the N2000 NEtwork in Umbria”</b> (LIFE19 IPE / IT / 000015). LIFE Integrated Project Nature. Member of the working group, participation in actions A4, D2. Aspects of own competence: governance model for assessing the territorial sustainability of Natura 2000 areas. Socio-economic monitoring of the project. Duration: 7 years.
2020 – On going:	<b>European Project “LIFE STREAMS - Salmo ceTtii REcovery Actions in Mediterranean Streams”</b> . (LIFE18 NAT / IT / 000931) LIFE + Nature program. Responsible for action D2: Socio-economic monitoring of the project. Duration: 4 years.
2019 – On going:	<b>Project: “Circular agriculture in safflower: cultivation protocol and environmental impact assessment of the field phase, oil extraction and co-products”</b> . Basic Research – University of Perugia. Member of the working group. Duration: 3 years.
2018 – 2021:	<b>Project: “The SSAM model - Spatial Sustainability Assessment Model”</b> . Research conducted within the "CREIAMO PA" project of the Ministry of the Environment, in collaboration with the Regional Agency for Environmental Protection (ARPA) of Umbria, the Umbria Region, the Higher Institute for Environmental Research (ISPRA). Member of the working group, for the design and implementation of the model.
2018 – 2021:	<b>Project “GO FORTE- Total Recovery Oil Production Chain”</b> . Rural development program for Umbria 2014/2020, Measure 16 "Cooperation" - sub-measure 16.1. Responsible for the LCA analysis of the identified oil supply chains (Safflower and thistle).
2018 – 2021:	<b>Project “GO LCA - Life Cycle Assessment of olive-oil and wine-growing supply chains, also by associating livestock species in olive groves, to increase the environmental and economic sustainability of companies”</b> . Rural development program for Umbria 2014/2020, Measure 16 "Cooperation" - sub-measure 16.1. Responsible for the economic analysis of companies.

- 2017 **Project "Evaluation of sustainable development through MCDA - GIS models"**, Regional Agency for the Protection of the Environment of Umbria and University of Perugia. Member of the working group.
- 2016 – 2018 **Project MYSUSHI – “Microalgae and Yeasts SUSTainable fermentation for High quality fish feed formulation”**. University of Milano Bicocca.  
**Scientific Responsible** of Work Package “Life Cycle Assessment”. Study and research activities aimed at environmental assessment, through Life Cycle Assessment (LCA), of alternative ingredients for fish feed in aquaculture.
- 2015 – 2018 **Project “Optimizing energy efficiency in traditional rural buildings: developing a thermal simulation model integrated into an LCA approach to assessing performance of innovative plant-based insulating materials”**. Basic Research 2015. University of Perugia.  
 Member of the working group. Aspects of own competence: LCA of innovative plant-based insulating materials.
- 2014 – 2018 **European Project “SUNLIFE 2014 – The strategy of Umbria Region for Natura 2000 Network”**. Member of the working group. Evaluation of ecosystem services; study on green professions; analysis for the preparation of the Financial Plan.
- 2013 – 2015 **Project AVIHOME**. Financed by Umbria Region within Measure 2.1.4 of Umbrian Rural Development Plan 2007-2013.  
 Member of the working group. Economic and environmental analysis of an innovative floor for the reduction of ammonia emissions in poultry farms. Aspects of own competence: Life Cycle Assessment study, energy balance.
- 2013 – 2014 **European Project: “Governing and organizing the agro-food supply systems in the European Union countries: institutional environments, governance modes and policy patterns”**. Jean Monnet Program. Member of the Scientific Committee.
- 2012 – 2013 **National PRIN project: "Agriculture in the production system of safe goods: food and energy". Research unit: Economic-environmental analysis of agroenergetic chains**. University of Perugia.  
 Member of the working group. Aspects of own competence: Life Cycle Assessment of wood-based biomass.
- 2011 **European Project “SLOWTOUR – Sustainable Lake Oriented Walking Tourism – Knowledge networks for the competitiveness and sustainability of European Tourism”**. European Commission, Enterprise and Industry Directorate-General.  
 Member of the working group. Identification of environmental and economic indicators for the construction of the SIA (Sustainability Impact Assessment) model.
- 2006 – 2009 **National project FISR “Sustainable Development and Climate Change”**. Integrated model for the evolution of natural and agricultural ecosystems in relation to climate change in the Mediterranean area (M.I.C.E.N.A.)". Member of the working group.

## **PUBLIC COLLABORATIONS/CONSULTANCIES**

- 2020-2021      **Strategic environmental assessment of the Italy-France Maritime Cross-border Program.** Structural Funds 2021-2027, Tuscany Region.  
Participation in the working group and in the elaboration of the Environmental Report.
- 2014 – 2015      **Socio-Economic Plan and Environmental Report within Strategic Environmental Assessment of the Seven Natural Parks of Umbria.** Commissioned by Umbria Region.  
Member of the working group for the Environmental Report.
- 2014      **Strategic Environmental Assessment of the Regional Environmental Energy Strategy 2014 – 2020.** Commissioned by the Umbria Region.  
Member of the working group for the implementation of the Environmental Report.
- 2013 – 2014      **GeoUmbriaSUIT 2.0. A Model for Sustainability Assessment.**  
Member of the working group that designed and implemented the model for assessing sustainability at territorial level. The model is a free and open source plugin, working within QGIS. Commissioned by Regional Agency for Environmental Protection.
- 2011      **Implementation of the Regional Strategy for Sustainable Development,** commissioned by the Umbria Region.  
Member of the working group.
- 2009 – Present      **Member of the Working Group of the Observatory for Biodiversity, Rural Landscape and Sustainable Planning of Umbria Region.**  
Coordination unit and “economic evaluation of biodiversity” unit. Collaboration in all research activities, scientific dissemination, training, planning and consulting related to the Observatory ([www.fondazionevillafabri.org](http://www.fondazionevillafabri.org)).
- 2008      **Strategic Environmental Assessment of the Regional Forest Plan.** Participation in the activities of data collection and elaboration, creation of indicators, study of program actions and analysis of environmental consequences, for the implementation of the Environmental Report.
- 2007      **Rural Development Plan 2007-2013.**  
Collaboration in the phase of ex-ante evaluation.
- 2006      **Project "Flax for industrial production of feed and linoleum: study of technical-economic feasibility and preparation of the quality disciplinary report".**  
Collaboration in economic-environmental study and assessment of the flax chain.

## MODELS IMPLEMENTATION

- 2018-2020      **SSAM model – Spatial Sustainability Assessment Model.**  
Member of the working group that implemented the model SSAM - Model for the evaluation of sustainability at territorial level using multicriteria analysis. Regional Agency for Environmental Protection (ARPA) of Umbria, University of Perugia.
- 2014            **VectorMCDA – Multi-criteria modules in Open Source environment.**  
Member of the working group that implemented the modules for Multicriteria evaluations in QGIS (Open Source) environment with vector data: *VectorMCDA* (methods TOPSIS, Promethee, Fuzzy MCDA, Weighted Summation, Dominance-based Rough Set Approach, Concordance and Discordance Index Calculation, XMCDAs).  
<http://maplab.alwaysdata.net/geomcda.html>
- 2013 – 2014    **GeoUmbriaSUIT 2.0. Model for Sustainability Assessment.**  
Member of the working group that designed and implemented the model for assessing sustainability at territorial level. The model is a free and open source plugin, working within QGIS. Commissioned by Regional Agency for Environmental Protection.  
<https://plugins.qgis.org/plugins/geoUmbriaSUIT/>
- 2010            **rMCDA – Multi-criteria modules in Open Source environment.**  
Member of the working group that implemented the modules for Multicriteria evaluations in GRASS (Open Source) environment (methods Electre, AHP, Regime, Fuzzy, Rough sets)  
<http://trac.osgeo.org/grass/browser/grass-addons/raster/mcda>.

## INVITED TALKS (INTERNATIONAL CONFERENCES)

- 2019: *A multi-criteria analysis for evaluating environmental performance of poultry farms in Umbria Region, according to European Legislation* (M. Piersantelli, L. Paolotti, L. Rocchi, A. Boggia) - 30th European Conference on Operational Research. 23-26 June 2019, Dublin, Ireland.
- 2019: Invitation as Keynote Speaker: *The role of environmental evaluation within circular economy: an application of Life Cycle Assessment (LCA) method in the detergents sector* (L. Paolotti, M. Lucchetti, L. Rocchi, A. Boggia) - Conference on Environmental and Climate Technologies - CONECT 2019, Riga Technical University. 15-17 May 2019, Riga, Latvia.
- 2018 *Assessing the sustainability of different poultry production systems: a multi-criteria approach* (L. Rocchi, L. Paolotti, A. Boggia, C. Castellini, A. Rosati). 29th European Conference on Operational Research. July 8-11, 2018, Valencia (Spain).
- 2017 *Integrated use of LCA and LCC for evaluation of innovative plant-based insulant materials* (L. Paolotti, L. Rocchi, M.E. Menconi, R. Petrucci, D. Grohmann). XVII National CIRIAF Conference, April 6-7, 2017, Rocca Sant'Apollinare, Marsciano (Perugia).

- 2016 *The model GeoUmbriaSUIT for territorial sustainability assessment: an application to Italian and Spanish case studies* (L. Paolotti, A. Boggia, A.M. Agullo Torres, F.J. Del Campo Gomis). 28th European Conference on Operational Research. July 3-6, 2016, Poznan (Poland).
- 2016 *MCDA and farm management: sustainable strategies for farms considering multi-purpose plans* (A. Boggia, F.F. Fagioli, L. Paolotti). 83rd Meeting of EURO working group on MCDA. March 31 - April 2, 2016, Barcelona.
- 2015 *Sustainable planning in small areas: a multicriteria approach* (L. Rocchi, G. Massei, L. Paolotti, A. Boggia). 23rd International Conference on Multiple Criteria Decision Making MCDM 2015 - Bridging Disciplines. August 2-7, 2015, Hamburg.
- 2015 *A new tool for sustainability assessment in geographic environment: GeoUmbriaSUIT* (L. Paolotti, G. Massei, L. Rocchi, P. Stranieri, R. Calì, C. Ricci, A. Boggia). 27th European Conference on Operational Research. July 12-15, 2015, Glasgow.
- 2014 *Poultry and olive associated production: a multicriteria analysis of sustainability* (C. Castellini, L. Paolotti, A. Boggia, L. Rocchi, A. Rosati). 20th Conference of the International Federation of Operational Research Societies. July 13-18, 2014, Barcelona.
- 2010 *Multiobjective planning for farms using the Dominance-based Rough Set Approach* (L. Paolotti, A. Boggia, S. Greco). 24th European Conference on Operational Research. July 11-14, 2010, Lisbon.
- 2009 *Measuring sustainability of poultry production systems: a multicriteria approach* (L. Paolotti, A. Boggia, C. Cortina, E. Novelli). 23rd European Conference on Operational Research. July 5-8, 2009, Bonn.

#### **OTHER CONFERENCE TALKS AS SPEAKER**

- 2022 *Environmental Assessment of fresh sausage transformation process in the Italian context: an LCA study* (L. Paolotti, L. Rocchi, A. Boggia) - Conference on Environmental and Climate Technologies - CONECT 2022, Riga Technical University. 11-13 May 2022, Riga, Latvia.
- 2021: *Evaluation of the environmental sustainability of hemp as a building material, through Life Cycle Assessment* (S.E. Di Capua, L. Paolotti, E. Moretti, L. Rocchi, A. Boggia) - Conference on Environmental and Climate Technologies - CONECT 2021, Riga Technical University. 12-14 May 2021, Riga, Latvia.
- 2017 *Sustainability evaluation of rural buildings through Life-Cycle Approach and Multi-Criteria Analysis* (L. Rocchi, L. Paolotti, M. Kadzinski, D. Grohmann, A. Boggia, M.E. Menconi). 41th AMASES Meeting - Association for Mathematics Applied to Social and Economic Sciences. September 13-16, 2017, Cagliari.
- 2013 *Economic and environmental evaluation of imported pellet* (A. Boggia, G. Martino, R. Pampanini, L. Paolotti). Energy and food security in UE system. Law and economic profiles. May 10-11, 2013, Siena.
- 2012 *The territorial management contract (TMC): a practical tool to reduce the risk in land resources management and to improve the multi-functionality of agriculture* (A. Ciani, A. Boggia, L. Paolotti, L. Rocchi). Workshop "Territory: what to do?" December 19, 2012, University of Perugia.



- 2012 *The territorial management contract (TMC): a practical tool to reduce the risk in land resources management and to improve the multi-functionality of agriculture* (A. Ciani, A. Boggia, L. Paolotti, L. Rocchi). 126<sup>th</sup> EAAE Seminar - New challenges for EU agricultural sector and rural areas. Which role for public policy. June 27-29, 2012, Capri.
- 2011 *Presentation of CARE s.r.l.: green economy within services.* Conference: The challenge of green economy in Umbria. Opportunities for firms and public bodies. April 12, 2011, University of Perugia.
- 2010 *Evaluation of environmental aspects for reaching sustainability of food chains* (L. Paolotti). International workshop "Sustainable behaviours in food chains: organizational, marketing and environmental aspects". September 23, 2010, University of Perugia.

#### **OTHER CONFERENCE TALKS OF THE RESEARCH GROUP**

- 2022 *Life Cycle Inventory for safflower production in Southern Europe* (L. Rocchi, M. Farneselli, L. Paolotti, B. Falcinelli, M. Guiducci, A. Boggia) - Conference on Environmental and Climate Technologies - CONECT 2022, Riga Technical University. 11-13 May 2022, Riga, Latvia.
- 2022: *Measuring sustainability of agriculture in European countries: a multicriteria approach for assessing progress within SDG2* (L. Rocchi, L. Paolotti, A. Boggia) – IAERE Conference (Italian Association of Environmental and Resource Economists), 21-23 April 2022, Cagliari - Italy.
- 2022: *Towards the 2030 Agenda: the SDG achievement index applied to EU Countries* (L. Rocchi, E. Ricciolini, L. Paolotti, A. Boggia) - EURO Working Group on Multicriteria Decision Aiding (EWG-MCDA) "Multiple Criteria Decision Aiding and Sustainable Development Goals." 7-9 April 2022, Belgrade (Serbia).
- 2021: *Trends in Environmental Management Systems research. A content analysis* (F.F. Fagioli, L. Paolotti, A. Boggia) - Conference on Environmental and Climate Technologies - CONECT 2021, Riga Technical University. 12-14 May 2021, Riga, Latvia.
- 2020: *Assessing progress towards SDGs implementation using the MRP-WSCI AND MRP-PCI multicriteria methods. The case study of the European countries* (Ricciolini E., Boggia A., Paolotti L., Rocchi L., Ruiz F., Cabello J.M., Cardinali M.) 2020 International Conference on Sustainable Development (ICSD), September 21th-22th on line, Columbia University, New York.
- 2020: *Environmental Assessment of bio-oil transformation from thistle in the Italian context: an LCA study* (S. Tortoioli, L. Paolotti, F. Romagnoli, A. Boggia, L. Rocchi) - Conference on Environmental and Climate Technologies - CONECT 2020, Riga Technical University. 13-15 May 2020, Riga, Latvia.
- 2019: Discussion paper: *Environmental valuation and MCDA: where we are going* (L. Rocchi, L. Paolotti, A. Boggia). EWG-MCDA 2019 - EURO Working Group on Multicriteria Decision Aiding. 11 -13 April 2019, Trento - Italy.

- 2019: *A model to address adaptation of agricultural systems to climate change* (Boggia A., Freschini A., Massei G., Paolotti L., Rocchi L.) International Conference on Sustainable Development, 24-25 September 2019, Columbia University, New York.
- 2019: *The evaluation of territorial sustainability in the framework of the United Nations Sustainable Development Goals (SGDs)* (Boggia A., Paolotti L., Fagioli F.F., Rocchi L.) XXX EURO Congress, European Conference on Operational Research, 23-26 September 2019, Dublin.
- 2019: *Environmental valuation and MCDA: where we are going* (Rocchi L., Paolotti L., Boggia A.) XXX EURO Congress, European Conference on Operational Research, 23-26 September 2019, Dublin.
- 2019: *From the farm to the agri-food system: a multiple criteria framework to evaluate extended multi-functional value* (Fagioli F.F., Rocchi L., Paolotti L., Słowiński R., Boggia A.) XXX EURO Congress, European Conference on Operational Research, 23-26 September 2019, Dublin.
- 2018: *Production of insulating panel from pruning remains: an Economic and Environmental Analysis* (L. Rocchi, L. Paolotti, F.F. Fagioli, A. Boggia). Conference on Environmental and Climate Technologies - CONECT 2018, Riga Technical University. 16-18 May 2018, Riga, Latvia.
- 2018 *Farm sustainability assessment: how to conciliate economic and environmental objectives* (F.F. Fagioli, L. Paolotti, A. Boggia). 29th European Conference on Operational Research. July 8-11, 2018, Valencia (Spain).
- 2017 *Sustainable multipurpose strategies for farms conciliating economic and environmental objectives* (F.F. Fagioli, L. Paolotti, A. Boggia). 41th AMASES Meeting - Association for Mathematics Applied to Social and Economic Sciences. September 13-16, 2017, Cagliari.
- 2017 *Valorization of key buildings of the rural traditional landscape in central Italy: the case of the "Casa Colonica"* (Menconi M.E., Grohmann D., Rocchi L., Paolotti L.). 11th International AIIA Conference: "Biosystems Engineering addressing the human challenges of the 21st century". July 5-8, 2017, Bari.
- 2017 *Using LCA, LCC and MCDA for sustainability evaluation of insulating materials* (Rocchi L., Paolotti L., Fagioli F.F.). 85th Meeting of the EURO Working group on MCDA, April 20-22, 2017, Padova.
- 2016 Invited paper: *A Model to Assess Sustainability Using Multi-Criteria Analysis and Geographic Information Systems: A Case Study* (Boggia A., Paolotti L., Massei G., Rocchi L., Pace E., Attard M.) 18th International Conference on Biosystems and Environmental Sciences, October 27-28, 2016, Buenos Aires. **Achievement of BEST PRESENTATION AWARD.**
- 2016 Discussion paper: *Spatial multicriteria analysis: applications and further development* (Boggia A., Fagioli F.F., Massei G., Paolotti L., Rocchi L.) 84th meeting of the European Working Group on Multicriteria Decision Aiding, September 22-24, 2016, Vienna.
- 2016 Invited paper: *Sustainable multipurpose strategies for farms conciliating economic and environmental objectives* (F.F. Fagioli, L. Paolotti, A. Boggia). 28th European Conference on Operational Research. July 3-6, 2016, Poznan.

- 2016 *From the farm to the agri-food system: an indicators framework for evaluating multi-functionality through the value chain* (F.F. Fagioli, L. Rocchi, L. Paolotti, A. Boggia). 83rd Meeting of EURO working group on MCDA. March 31 - April 2, 2016, Barcelona.
- 2016 *When chickens graze the olive orchard, the environmental impact of both chicken rearing and olive growing decreases.* (A. Rosati, A. Boggia, C. Castellini, L. Paolotti, L. Rocchi). 3rd European Agroforestry Conference - 2016 EURAF (European Agroforestry Federation) Conference, May 23-25, 2016, Montpellier.
- 2015 *Economic and environmental evaluation of pellet and biomasses: conceptualizing uncertainty through case studies* (G. Martino, A. Boggia, L. Paolotti). Transition in Agriculture – Agricultural Economics in Transition XII. Academy of Sciences (CERS IE-HAS). November 25-26, 2015, Budapest.
- 2015 *Participatory approach applied to environmental certification: the case study of ecosustainable events using the index “M.e.t.e.r.”* (A. Boggia, L. Paolotti, L. Rocchi, F. Schiavi). 5° World Sustainability Forum. September 7-9, 2015, Basel.
- 2015 Invited paper: *Geographic MCDA for sustainability assessment: the new tool VectorMCDA* (L. Rocchi, G. Massei, L. Paolotti, A. Boggia). 27th European Conference on Operational Research. July 12-15, 2015, Glasgow.
- 2015 Invited paper: *Conservation of landrace: the key role of the value for agrobiodiversity conservation. An application on ancient tomatoes varieties.* (L. Rocchi, C. Cortina, L. Paolotti, A. Boggia). Florence SWIF - Sustainability of Well-Being International Forum 2015: Food for Sustainability and not just food. June 4-6, 2015, Firenze.
- 2014 *Agroforestry systems combining free range poultry and olive orchards reduce the environmental impact of both poultry and olives* (A. Rosati, S. Caporali, M. Valentini, C. Castellini, L. Paolotti, L. Rocchi). AGROCOP conference, October 16-17, 2014, Porano.
- 2013 *Sustainability and typical products. The case of the Water Footprint of “PDO Umbria” olive oil* (L. Rocchi, L. Paolotti, A. Boggia). 50th SIDEA Conference: Sustainability of the Agri-Food System: Strategies and Performances. September 26-28, 2013, Lecce.
- 2012 *MCDA-GIS integration: an application in GRASS GIS 6.4* (G. Massei, L. Rocchi, L. Paolotti, S. Greco, A. Boggia). Open Source Geospatial Research & Education Symposium. October 24-26, 2012, Yverdon-les-Bains.
- 2010 *Choice experiments and park planning: an economic tool for a political issue* (A. Boggia, A. Ciabattini, L. Paolotti, L. Rocchi). 11th Joint Conference on Food, Agriculture and the Environment - Universities of Padova and Minnesota. August 29 – September 2, 2010, San Vito di Cadore (Belluno).

### **National Meetings**

- 2019 *A new tool for sustainability assessment in geographic environment: SSAM Spatial Sustainability Assessment Model.* Training Days - Territorial Evaluation Models. Organized by ARPA Umbria and USL Umbria 1. Construction Center for Safety and Work, Perugia, 29-30 May 2019.

- 2018 *A multi-criteria analysis for evaluating environmental performance of poultry farms in Umbria Region, according to European Legislation* (L. Paolotti, M. Piersantelli, A. Boggia). LV SIDEA Study Conference “Green metamorphosis, agriculture, food, ecology” Monumental complex of San Pietro, Department of Agricultural, Food and Environmental Sciences, Perugia 13-15 September 2018.
- 2017 *Comparison of natural and not natural insulants, according to life cycle approach: an integrated economic and environmental evaluation for rural buildings.* (L. Rocchi, L. Paolotti, M.E. Menconi, D. Grohmann, A. Boggia). XVII National CIRIAF Conference. Rocca Sant’Apollinare, April 6-7, 2017, Marsciano (Perugia).
- 2017 *“The economic value of biodiversity”* (L. Rocchi, A. Boggia, L. Paolotti, C. Cortina). Workshop: The Umbrian Observatory for Biodiversity, Rural Landscape and Sustainable Planning after 7 years of activities”. March 16, 2017, Trevi (Perugia).
- 2016 *Evaluation of sustainability in geographic environment: the model GeoUmbriaSUIT* (G. Massei, L. Paolotti, L. Rocchi, P. Stranieri, R. Calì, C. Ricci, A. Boggia). GIS Day 2016, November 29, 2016, University of Perugia.
- 2015 *Managing nature in the city: urban biodiversity* (A. Boggia, L. Paolotti, B. Romano). World Earth Day 2015. Sustainable cities: a cultural challenge. April 20-21, 2015, Chamber of Commerce of Perugia.
- 2014 *Combining olive growing and animal raising reduces the environmental impact: the olive chicken case* (A. Rosati, S. Caporali, M. Valentini, C. Castellini, L. Paolotti, L. Rocchi). National Conference of Olive and Oil. November 26-28, 2014, Bari.
- 2014 *Territorial Management Contract - TMC: an instrument for improving rivers management* (Ciani A., Boggia A., Paolotti L., Rocchi L.). Conference “Defending against rivers or protecting rivers?” May 23, 2014, Physiocrats Accademy, Siena.
- 2014 *Territorial Management Contract - TMC: an instrument for improving sustainable management of soil and multi-functionality in agriculture* (A. Ciani, A. Boggia, L. Paolotti, L. Rocchi). World Earth Day 2014. Sustainable Development Objectives 2015-2030: the challenges for an innovative governance of territory (river and lake contracts). April 29, 2014, Perugia.

## **SPIN OFF, SCIENTIFIC AND TECHNOLOGICAL TRANSFER**

- 2010 – Present      **Founding Partner and CEO of Spin off CARE srl** ([www.careearth.org](http://www.careearth.org)), of University of Perugia. Environmental consulting and assistance for firms and public bodies.
- Professional activities of CARE:* Environmental Impact Assessment; Strategic Environmental Assessment; Environmental Assistance for firms for compliance with Environmental Integrated Authorization; Assistance for Public Bodies for Sustainable Development Strategies; Environmental Education; Design and coordination of eco-sustainable events, Eco-management, Eco-commerce.
- 2013                      Constitution of Spin-off network ONE (One Network for the Environment [www.reteone.net](http://www.reteone.net)). Network of 6 spin-off of University of Perugia, dealing with research and interdisciplinary assistance in environmental topics.

## AWARDS FOR SCIENTIFIC AND TECHNOLOGICAL TRANSFER

- 2016 CARE wins the participation to the “Maker Faire European Edition” of Rome, receiving also the “Blu Ribbon” price, for its innovative project of e-commerce presented.
- 2016 CARE is included among the 50 Umbrian firms selected within the project “Sprouts of excellence”, promoted by Confindustria Umbria.
- 2012 CARE wins the National Prize “Seven Green Awards” of Corriere della Sera, thanks to its environmental social network EnviNet. Category: environmental culture.
- 2010 Third position at StartCup Competition Umbria-Marche 2010, for scientific activity of research transfer.

## AWARDS FOR SCIENTIFIC RESEARCH

- 2016 Achievement of **BEST PRESENTATION AWARD** for the paper: Invited paper: *A Model to Assess Sustainability Using Multi-Criteria Analysis and Geographic Information Systems: A Case Study* (Boggia A., Paolotti L., Massei G., Rocchi L., Pace E., Attard M.) 18th International Conference on Biosystems and Environmental Sciences, October 27-28, 2016, Buenos Aires.

## TEACHING

- 2019 – Present Contract Professor for the teaching “Economic and environmental assessment” (42 hours - 6 credits).  
Department of Chemistry, Biology and Biotechnology of the University of Perugia. Master's Degree Course in Naturalistic and Environmental Sciences and Technologies; Master's Degree Course in Biology.
- 2015 – 2018 Lecturer on “Eco-sustainable management of animal production system – Environmental Economics module”. Department of Agricultural, Food and Environmental Sciences, University of Perugia.  
Lecturer on “Environmental Economics and Appraisal”. Department of Agricultural, Food and Environmental Sciences, University of Perugia.
- 2014 – 2018 Classes on different methods of evaluating environmental impacts: Methods Life Cycle Assessment – LCA, Ecological Footprint, Water Footprint, Carbon Footprint, Energy. Practice exercise on Environmental Impact Assessment. Inside courses on “Environmental Economics and Appraisal” and “Economic-Environmental Evaluation” of University of Perugia.  
Classes on LCA and Environmental Integrated Authorization. Inside course on “Sustainable management of the livestock sector” of University of Perugia.
- 2014 – 2016 Lecturer for the course on “Sustainable management and promotion of Territory” (joint commitment). Topics covered: Application of Multi-criteria Analysis: Case Studies; Evaluation of Territorial Sustainability; GIS-MCDA instruments for territorial analysis in QGIS and GRASS.

- 2008 - 2014            Classes on different methods of evaluating environmental impacts: Methods Life Cycle Assessment – LCA, Ecological Footprint, Emergy. Practice exercise on Environmental Impact Assessment. Inside courses on “Environmental Economics and Appraisal” and “Economic-Environmental Evaluation” (from 2010) of University of Perugia.
- Classes on evaluation of sustainability in agriculture and different methods of evaluating environmental impacts. Inside the course on “Animal Production” and “Animal Science of University” of Perugia.

## SCIENTIFIC SUPERVISION

- 2021    Supervisor of the Master Degree thesis in Naturalistic and Environmental Sciences and Technologies (University of Perugia) of Marco Bertoni on *“Assessment of environmental effects as part of the strategic environmental assessment procedure of the Italy-France maritime cross-border program”*.
- 2021    Co-supervisor of the Master Degree thesis in Sustainable Rural Development (University of Perugia) of Eleonora Pioppi on *“Application of multi-criteria analysis to the economic and environmental assessment of agricultural companies ”*.
- 2020    Co-supervisor of the Master Degree thesis in Sustainable Rural Development (University of Perugia) of Emanuele Di Capua on *“Evaluation of the environmental sustainability of hemp as a material in construction, through the Life Cycle Assessment ”*.
- 2020    Co-supervisor of the Master Degree thesis in Zootechnical Sciences (University of Perugia), on *“Evaluation of sustainability in poultry farming through multi-criteria analysis”*.
- 2019    Co-supervisor of the Master Degree thesis in Sustainable Rural Development (University of Perugia) of Federica Ferroni on *“Towards a circular economy: Life Cycle Assessment study (LCA) applied to thistle culture ”*.
- 2019    Co-supervisor of the Master Degree thesis in Sustainable Rural Development (University of Perugia) of Lorenzo Cascio on *“The production of bioplastics in the circular economy: an application of the Life Cycle Assessment ”*.
- 2019    Co-supervisor, of the Master Degree thesis in Naturalistic and Environmental Sciences and Technologies (University of Perugia) of Maria Giulia Lucchetti on *“The role of environmental assessment in the circular economy: an application of the Life Cycle Assessment (LCA) ”*.
- 2018    Co-Supervisor (with Prof. Antonio Boggia) of the undergraduate thesis in Sustainable and Rural Development (University of Perugia) of Matteo Piersantelli, on *Comparative analysis of environmental performance of poultry farms in Umbria region, according to European legislation*.
- 2018    Co-Supervisor (with Prof. Antonio Boggia) of the Master Degree thesis in Sustainable and Rural Development (University of Perugia) of Lorenzo Vecchi, on *Life Cycle Analysis of palm oil production chain*.
- 2017    Co-Supervisor (with Prof. Lucia Rocchi) of the Master Degree thesis in Sustainable and Rural Development (University of Perugia) of Alessandro Lopponi, on *Use of urban pruning for creating insulant panels: a life cycle analysis*.

- 2017 Co-Supervisor (with Prof. Antonio Boggia) of the Master Degree thesis in Sustainable and Rural Development (University of Perugia) of Giuseppe Cavadenti, on *Environmental evaluations in the context of technological innovation: scientific and professional training through e-learning instruments*.
- 2016 Co-Supervisor (with Prof. Antonio Boggia) of the Master Degree thesis in Environmental and Naturalistic Sciences and Technologies (University of Perugia) of Giacomo Rettori, on *Biodiversity and e-learning: innovation in training and scientific divulgation through digital instruments*.
- 2015 Co-Supervisor (with Prof. Mariano Pauselli) of the Master Degree thesis in Animal Science (University of Perugia) of Lavinia Proietti, on *Environmental impact evaluation of dairy farms through Life Cycle Assessment: a case study in Malta*.
- 2014 Co-Supervisor (with Prof. Antonio Boggia) of the Master Degree thesis in Sustainable and Rural Development (University of Perugia) of Federico Schiavi, on *The case study of sustainable events through the use of the index M.E.T.E.R.*
- 2014 Co-Supervisor (with Prof. Mariano Pauselli) of the Bachelor Degree thesis in Animal Production (University of Perugia) of Erika Bricca, on *Evaluation of the environmental impact of Chianina beef production by means of LCA: a case study*.
- 2013 Co-Supervisor (with Prof. Mariano Pauselli) of the Bachelor Degree thesis in Animal Production (University of Perugia) of Lavinia Proietti on *Life Cycle Analysis (LCA) of "Vitellone Bianco dell'Appennino Centrale": comparison of three rearing systems*.
- 2008 Co-Supervisor (with Prof. Antonio Boggia) of the Master Degree thesis in Economics and Management of Agri-food, Environmental and Territorial Systems (University of Perugia) of Lucia Caneschi on *Analysis of environmental impact of linoleum through Life Cycle Assessment (LCA)*.
- 2007 Co-Supervisor (with Prof. Antonio Boggia) of the Master Degree thesis in Economics and Management of Agri-food, Environmental and Territorial Systems (University of Perugia) of Cinzia Di Stefano on *Methods for environmental impacts evaluation of production systems in agriculture: a comparative analysis*.

## LECTURES ABROAD AND WITHIN INTERNATIONAL SCHOOLS

- 2017 Six lectures and six practice exercise classes in Spanish for undergraduate students (**Invited Researcher**): LCA – Life Cycle Assessment; Ecological Footprint; Instruments for evaluation of territorial sustainability; Multicriteria analysis. Universidad Miguel Hernández de Elche (Spain). November 2017.
- 2015 Two lectures in Spanish for undergraduate and PhD students (**Invited Researcher**): "El modelo GeoUmbriaSUIT: un instrumento para la evaluación de la sostenibilidad a nivel territorial" (The GeoUmbriaSUIT model: an instrument for evaluation of sustainability at territorial level). Universidad Miguel Hernández de Elche (Spain). December 2015.
- 2015 Member of the teaching group of International Summer School in Sustainable Management and Promotion of Territory, August 31 – September 6, 2015, University of Perugia.
- 2014 Member of the teaching group of International Summer School in Sustainable Management and Promotion of Territory, December 2014, University of Perugia.

- 2014 Member of the teaching group of the “European Multiple Criteria Decision Aiding (MCDA) Spring School: Multiple criteria decision making: a key for sustainability”, May 26-31, 2014, University of Perugia.
- 2011 Member of the teaching group of International Summer School in Sustainable Management and Promotion of Territory, September 4-11, 2011. Todi (Perugia).
- 2008 International seminar for PhD students (**Erasmus Programme**): *Multiobjective planning for farms: the Dominance-based Rough Set Approach*. October 17, 2008, Universidad Politécnica de Madrid (Escuela Técnica Superior de Ingenieros Agrónomos).

## **ADDITIONAL LECTURES**

- 2022 Lecture within the training course "Environmental sustainability and reduction of emissions on farms". Organized by the Center for Agricultural and Rural Development - Casalina di Deruta (Perugia). 8 hours - May 2022.
- 2020 Lecture within the Legambiente Umbria project "Youth for the environment" (Macro Action 4 - Education laboratories for sustainable development). 9.5 hours - November 2020.
- 2020 Lecture within the training course organized by Confagricoltura and CRATIA srl "Sustainable management of natural resources, the environment and agro-forestry pastoral areas A6.1 - Increase in carbon storage: livestock waste, in scope of the Rural Development Program for Umbria 2014-2020, Measure 1, Submeasure 1.1: professional training and skills acquisition. 5 hours - December 2020.
- 2020 Lecture within the "Training services in favour of ODAF Teramo" project organized by the Center for Agricultural and Rural Development (CESAR). 2 hours - December 2020.
- 2010 Seminar *on evaluation of environmental impact of oliviculture through LCA*, within International Master in Olive Growth. Spoleto (Perugia).
- 2008 Lecture of 25 hours within the course for “Expert in planning, programming and control of agri-food small-medium firms”. APIFORM Perugia,
- 2007 Seminar within the course for “Competent technician in the direction of the farm”. Centre for Agricultural and Rural Development, Casalina di Deruta (Perugia).



## PUBLICATIONS (SELECTION)

### Peer-reviewed Articles on international Journals

- Boggia A., Fagioli F.F., Paolotti L., Ruiz F., Cabello J.M., Rocchi L. (2023). Using accounting dataset for agricultural sustainability assessment through a multi-criteria approach: an Italian case study. *International Transactions in Operational Research Open Access (Q1) 0*: 1-23. DOI: 10.1111/itor.13141  
**SCOPUS: 2-s2.0-85127601569**
- Boggia A., Paolotti L., Martino G., Rocchi L. (2022). Comparative analysis of different alternatives for sustainable short rotation woody crops in Central Italy. *Science of the Total Environment (Q1) 836* Article number 155638. DOI: 10.1016/j.scitotenv.2022.155638. **SCOPUS: 2-s2.0-85129995890**
- Rocchi L., Ricciolini E., Massei G., Paolotti L., Boggia A. (2022). Towards the 2030 Agenda: Measuring the Progress of the European Union Countries through the SDGs Achievement Index. *Sustainability (Switzerland) Open Access (Q1) 14(6)*, Article Number 3563. DOI: 10.3390/su14063563.  
**SCOPUS: 2-s2.0-85126974347**
- Boggia A., Fagioli F.F., Paolotti L., Ruiz F., Cabello J.M., Rocchi L. (2022). Using accounting dataset for agricultural sustainability assessment through a multi-criteria approach: an Italian case study. *International Transactions in Operational Research Open Access (Q1) 0*: 1-23. DOI: 10.1111/itor.13141  
**SCOPUS: 2-s2.0-85127601569**
- Fagioli F.F., Paolotti L., Boggia A. (2022). Trends in Environmental Management Systems Research. A Content Analysis. *Environmental and Climate Technologies Open Access 26(1)*:46-63. DOI: 10.2478/rtuct-2022-0005. **SCOPUS: 2-s2.0-85125641901**
- Pelaracci S., Rocchi L., Romagnoli F., Boggia A., Paolotti L. (2022). Agricultural co-product management: An LCA perspective on the use of safflower oilcake from bio-oil production in Umbria region, Italy. *Environmental and Climate Technologies Open Access 26(1)*:25-35. DOI: 10.2478/rtuct-2022-0003.  
**SCOPUS: 2-s2.0-85124621625.**
- Ricciolini E., Rocchi L., Cardinali M., Paolotti L., Ruiz F., Cabello J.M., Boggia A. (2022). Assessing Progress Towards SDGs Implementation Using Multiple Reference Point Based Multicriteria Methods: The Case Study of the European Countries. *Social Indicators Research Open Access (Q1)*, Published on line 31 January 2022. DOI: 10.1007/s11205-022-02886-w. **SCOPUS: 2-s2.0-85123928449.**
- Di Capua S.E., Paolotti L., Moretti E., Rocchi L., Boggia A. (2021). Evaluation of the Environmental Sustainability of Hemp as a Building Material, through Life Cycle Assessment. *Environmental and Climate Technologies Open Access 25(1)*:1215-1228. DOI: 10.2478/rtuct-2021-0092.  
**SCOPUS: 2-s2.0-85122799375.**
- Rocchi L., Cartoni Mancinelli, Paolotti L., Mattioli S., Boggia A., Papi, F., Castellini, C. (2021). Sustainability of rearing system using multicriteria analysis: Application in commercial poultry production. *Animals – Open Access (Q1)*, 11(12), Article Number 3483. DOI: 10.3390/ani11123483.  
**SCOPUS: 2-s2.0-85120606099.**
- Rocchi L., Paolotti L., Cortina C., Fagioli F.F., Boggia A. (2021). Measuring circularity: an application of modified Material Circularity Indicator to agricultural systems. *Agricultural and Food Economics*, 9(1), Article Number 9. DOI: 10.1186/s40100-021-00182-8. **SCOPUS: 2-s2.0-85102182623.**
- Rocchi L., Cortina C., Paolotti L., Boggia A. (2020). Recreation vs conservation in Natura 2000 sites: a spatial multicriteria approach analysis. *Land Use Policy (Q1)*, 99, Article Number 105094. DOI: 10.1016/j.landusepol.2020.105094. **SCOPUS: 2-s2.0-85091652357.**

- Rocchi L., Boggia A., Paolotti L. (2020). Sustainable agricultural systems: A bibliometrics analysis of ecological modernization approach. *Sustainability (Switzerland)*, Open Access (Q1) 12(22): 1–16, 9635. DOI: 10.3390/su12229635. **SCOPUS: 2-s2.0-85096158864.**
- Tortoioli S., Paolotti L., Romagnoli F., Boggia A., Rocchi L. (2020). Environmental Assessment of Bio-Oil Transformation from Thistle in the Italian Context: An LCA Study. *Environmental and Climate Technologies*, 24(3):430–446. DOI: 10.2478/rtuct-2020-0114. **SCOPUS: 2-s2.0-85099099384.**
- Lucchetti M.G., Paolotti L., Rocchi L., Boggia A. (2019). The Role of Environmental Evaluation within Circular Economy: An Application of Life Cycle Assessment (LCA) Method in the Detergents Sector. *Environmental and Climate Technologies*. Open Access 23(2): 238-257. DOI: 10.2478/rtuct-2019-0066 **SCOPUS: 2-s2.0-850762690**
- Boggia A., Paolotti L., Antegiovanni P., Fagioli F.F., Rocchi L. (2019). Managing ammonia emissions using no-litter flooring system for broilers: Environmental and economic analysis. *Environmental Science and Policy (Q1)* 101: 331-340. DOI: 10.1016/j.envsci.2019.09.005 **SCOPUS: 2-s2.0-85072698467**
- Rocchi L., Paolotti L., Rosati A., Boggia A., Castellini C. (2019). Assessing the sustainability of different poultry production systems: A multicriteria approach. *Journal of Cleaner Production* 211: 103-114. **SCOPUS: 2-s2.0-85059334584**
- Paolotti L., Del Campo Gomis F.J, Agullo Torres A.M, Massei G., Boggia A. (2019). Territorial sustainability evaluation for policy management: The case study of Italy and Spain. *Environmental Science and Policy* 92: 207-219. Codice SCOPUS: 2-s2.0-85058007825
- Rocchi L., Cortina C., Paolotti L., Massei G., Fagioli F.F., Antegiovanni P., Boggia A. (2019). Provision of ecosystem services from the management of Natura 2000 sites in Umbria (Italy): Comparing the costs and benefits, using choice experiment. *Land Use Policy* 81: 13-20. ISSN: 02648377; DOI: 10.1016/j.landusepol.2018.10.007. SCOPUS: 2-s2.0-85055710672
- Rocchi L., Paolotti L., Fagioli F.F., Boggia A. (2018). Production of insulating panel from pruning remains: an Economic and Environmental Analysis. *International Scientific Conference “Environmental and Climate Technologies”, CONECT 2018, 17–18 May 2018, Riga, Latvia. Energy Procedia* 147: 145-153.
- Rocchi L., Kadziński M., Menconi M.E., Grohmann D., Miebs G., Paolotti L., Boggia A. (2018). Sustainability evaluation of retrofitting solutions for rural buildings through life cycle approach and multi criteria analysis. *Energy and Buildings* 173: 281-290.  
ISSN: 03787788; DOI: 10.1016/j.enbuild.2018.05.032. **SCOPUS: 2-s2.0-85048136376**
- Boggia A., Massei G., Pace E., Rocchi L., Paolotti L., Attard M. (2018). Spatial multicriteria analysis for sustainability assessment: A new model for decision making. *Land Use Policy* 71: 281-292. ISSN: 02648377; DOI: 10.1016/j.landusepol.2017.11.036. **SCOPUS: 2-s2.0-85037655698**
- Boggia A., Massei G., Paolotti L., Rocchi L., Schiavi F. (2018). A model for measuring the environmental sustainability of events. *Journal of Environmental Management* 206: 836-845. ISSN: 03014797; DOI: 10.1016/j.jenvman.2017.11.057. **SCOPUS: 2-s2.0-85036472781**
- Kadziński M., Rocchi L., Miebs G., Grohmann D., Menconi M.E., Paolotti L. (2018). Multiple Criteria Assessment of Insulating Materials with a Group Decision Framework Incorporating Outranking Preference Model and Characteristic Class Profiles. *Group Decision and Negotiation*, 27(1): 33-59. ISSN: 09262644; DOI: 10.1007/s10726-017-9549-3. **SCOPUS: 2-s2.0-85034260941.**
- Rocchi L., Paolotti L., Fagioli F.F. (2017). Defining agri-environmental schemes in the buffer areas of a natural regional park: An application of choice experiment using the latent class approach. *Land Use Policy* 66: 141-150. ISSN: 02648377; DOI: 10.1016/j.landusepol.2017.04.033. **SCOPUS: 2-s2.0-85019025130.**

- Fagioli F.F., Rocchi L., Paolotti L., Słowiński R., Boggia A. (2017). From the farm to the agri-food system: A multiple criteria framework to evaluate extended multi-functional value. *Ecological Indicators* 79: 91–102. ISSN: 1470160X; DOI: 10.1016/j.ecolind.2017.04.009. **SCOPUS: 2-s2.0-85017630544.**
- Paolotti L., Martino G., Marchini A., Boggia A. (2017). Economic and environmental assessment of agro-energy wood biomass supply chains. *Biomass and Bioenergy* 97: 172-185. ISSN: 09619534; DOI: 10.1016/j.biombioe.2016.12.020. **SCOPUS: 2-s2.0-85009152771.**
- Paolotti L., Boggia A., Castellini C., Rocchi L., Rosati A. (2016). Combining livestock and tree crops to improve sustainability in agriculture: a case study using the Life Cycle Assessment (LCA) approach. *Journal of Cleaner Production* 131: 351-363. ISSN: 0959-6526; eISSN: 1879-1786; DOI: 10.1016/j.jclepro.2016.05.024. WOS: 000379270900035. **SCOPUS: 2-s2.0-84969555970.**
- Rocchi L., Paolotti L., Cortina C., Boggia A. (2016). Conservation of landrace: the key role of the value for agrobiodiversity conservation. An application on ancient tomatoes varieties. Florence “Sustainability of Well-Being International Forum”. 2015: Food for Sustainability and not just food, FlorenceSWIF2015. *Agriculture and Agricultural Science Procedia* 8: 307-316. DOI: 10.1016/j.aaspro.2016.02.025. ISSN:2210-7843.
- Paolotti L., Martino G., Marchini A., Pascolini R., Boggia A. (2015). Economic and environmental evaluation of transporting imported pellet: A case study. *Biomass and Bioenergy* 83: 340-353. ISSN: 0961-9534; eISSN: 1873-2909; DOI: 10.1016/j.biombioe.2015.09.011. WOS: 000367084100037. **SCOPUS: 2-s2.0-84945277984.**
- Boggia A., Rocchi L., Paolotti L., Musotti F., Greco S. (2014). Assessing Rural Sustainable Development potentialities using a Dominance-based Rough Set Approach. *Journal of Environmental Management* 144: 160-167. ISSN: 0301-4797, eISSN: 1095-8630; DOI: 10.1016/j.jenvman.2014.05.021. WOS: 000340011800019. **SCOPUS: 2-s2.0-84902437544.**
- Massei G., Rocchi L., Paolotti L., Greco S., Boggia A. (2014). Decision Support Systems for environmental management: A case study on wastewater from agriculture, *Journal of Environmental Management* 146: 491-504. ISSN: 0301-4797, eISSN: 1095-8630; DOI: 10.1016/j.jenvman.2014.08.012. WOS: 000343614400051. **SCOPUS: 2-s2.0-84909958940.**
- Paolotti L., Greco S., Boggia A. (2014). Multiobjective strategies for farms, using the Dominance-based Rough Set Approach. *Aestimum* 65: 95-115. ISSN: 1592-6117 (print); ISSN: 1724-2118 (online). DOI: <http://dx.doi.org/10.13128/Aestimum-15457>.
- Castellini C., Boggia A., Cortina C., Dal Bosco A., Paolotti L., Novelli E., Mugnai C. (2012). A multicriteria approach for measuring the sustainability of different poultry production systems. *Journal of Cleaner Production* 37: 192-201. ISSN: 0959-6526; DOI: 10.1016/j.jclepro.2012.07.006. WOS: 000309375200021. **SCOPUS: 2-s2.0-84865504294.**
- Boggia A., Paolotti L., Castellini C. (2010). Environmental impact evaluation of conventional, organic and organic-plus poultry production systems using life cycle assessment. *Worlds Poultry Science Journal* 66: 95-114. ISSN: 0043-9339; DOI: 10.1017/S0043933910000103. WOS: 000276006500008. **SCOPUS: 2-s2.0-77952516275.**

### **Contributes within Books**

- Ciani A., Rocchi L., Paolotti L., Diotallevi F., Guerra J.B., Fernandez F., Suni A., Edwin G.A., Muthu N., Ohe Y., Grigore A. (2015). Corporate Social Responsibility (CSR): A Cross-Cultural Comparison of Practices. In: Wolf R., Issa T., Thiel M. (Eds). *Empowering Organizations through Corporate Social Responsibility*. IGI Global, 73-96. ISBN: 978-146667295-6;1466672943;978-146667294-9. DOI: 10.4018/978-1-4666-7294-9.ch004. SCOPUS: 2-s2.0-84946136019.

- Castellini C., Boggia A., Paolotti L., Thoma G. J., Kim Dae-soo (2012). Environmental Impacts and Life Cycle Analysis of Organic Meat Production and Processing, in S. C. Ricke, E. J. Van Loo, M. G. Johnson, C. A. O'Bryan (Eds) Organic Meat Production and Processing, Wiley-Blackwell, 113-136. ISBN: 978-081382126-9. DOI: 10.1002/9781118229088.ch7. SCOPUS: 2-s2.0-84886524133.
- Bastianoni S., Boggia A., Castellini C., Di Stefano C., Niccolucci V., Novelli E., Paolotti L., Pizzigallo A. (2010). Measuring environmental sustainability of intensive poultry-rearing system. In: Lichtfouse E., Navarrete M., Debaeke P. (Eds). Genetic engineering, biofertilisation, soil quality and organic farming. Sustainable agriculture reviews, vol. 4. Springer, 277-309. DOI: 10.1007/978-90-481-8741-6\_10. ISBN: 978-90-481-8740-9.

## Monographs

- Boggia A., Luciani F., Massei G., Paolotti L., Rocchi L., Sediari T. (2013). An evaluation of climate change effects on agricultural systems: the case of Trasimeno Lake. Quaderni del Dipartimento di Economia, Finanza e Statistica, 125: 1- 26. ISSN 1825-0211.
- Canalicchio, M., Montagnoli, L., Boggia, A., Cortina, C., Paolotti, L., Pitteri, A., Rocchi, L., Eijelaar, E., Jeuring, J., Landré, M., Nawijn, J., Peeters, P., Piket, P., Hammerl, M., Jablonski, S. (2011). Manual of excellence in lake tourism in Europe. Magione, Italy: Comunità Montana Associazione dei Comuni Trasimeno - Medio Tevere; University of Perugia DSEEA; NHTV CSTT; Global Nature Fund. ISBN: 9788887652253.

## Conference Proceedings

- Ricciolini E., Boggia A., Paolotti L., Rocchi L., Ruiz F., Cabello J.M., Cardinali M. (2020) Assessing progress towards SDGs implementation using the MRP-WSCI AND MRP-PCI multicriteria methods. The case study of the European countries. Online proceedings of the 2020 International Conference on Sustainable Development (ICSD), September 21th-22th on line, Columbia University, New York.  
[https://ic-sd.org/2020/11/21/proceedings-from-icsd-2020/?mc\\_cid=e44b322b03&mc\\_eid=bebfc46821](https://ic-sd.org/2020/11/21/proceedings-from-icsd-2020/?mc_cid=e44b322b03&mc_eid=bebfc46821)
- Cortina C., Rocchi L., Paolotti L., Boggia A. (2020). Drafting a financial plan to manage the Natura 2000 network, in: Torquati B., Marchini A. (editors), Green metamorphoses: agriculture, food, ecology. Proceedings of the LV Conference of SIDEA Studies. Wageningen Academic Publishers. ISBN: 978-90-8686-347-1.
- Rocchi L., Paolotti L., Cortina C., Fagioli F.F. (2020). An application of material circularity indicator to agricultural system, in: Torquati B., Marchini A. (editors), Green metamorphoses: agriculture, food, ecology. Proceedings of the LV Conference of SIDEA Studies. Wageningen Academic Publishers. ISBN: 978-90-8686-347-1. (Within Scopus secondary documents)
- Paolotti L., Piersantelli M., Boggia A. (2020). A multi-criteria analysis for evaluating environmental performance of poultry farms in Umbria Region, according to European Legislation, in: Torquati B., Marchini A. (editors), Green metamorphoses: agriculture, food, ecology. Proceedings of the LV Conference of SIDEA Studies. Wageningen Academic Publishers. ISBN: 978-90-8686-347-1.
- Boggia A., Rocchi L., Massei G., Freschini A.L., Paolotti L. (2019). A model to address adaptation of agricultural systems to climate change. Online proceedings of the 2019 International Conference on Sustainable Development (ICSD), September 24th-25th, Columbia University, New York.  
<https://ic-sd.org/2019/11/21/proceedings-from-icsd-2019/>
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- Massei G, Rocchi L, Paolotti L, Greco S, Boggia A (2012). MCDA-GIS integration: an application in GRASS GIS 6.4. In: Open Source Geospatial Research & Education Symposium – Conference Proceedings. Yverdon-les-Bains (Switzerland), October, 24-26, 2012.
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- Paolotti L, Boggia A, Greco S (2010). Multiobjective planning for farms using the Dominance-based Rough Set Approach. In: 24rd European Conference on Operational Research - Conference Program. Lisbon, July 11-14, 2010.
- Boggia A, Paolotti L, Cortina C, Novelli E (2009). Measuring sustainability of poultry production systems: a multicriteria approach. In: 23rd European Conference on Operational Research - Book of abstracts. Bonn, July 5-8, 2009.

## **ORGANIZATION OF SCIENTIFIC EVENTS (SELECTION)**

### **Conferences, workshops, sessions of conferences**

- 2019 Organizer and chair of the sessions “MCDA and Environmental Management 1” and “MCDA and Environmental Management 2”. 30th European Conference on Operational Research, 23-26 June 2019 – University College Dublin (Ireland)
- 2018 Organizer and chair of the sessions “MCDA and Environmental Management 1” and “MCDA and Environmental Management 2”. 29th European Conference on Operational Research, July 8-11, 2018, Universitat de València and Universitat Politècnica de València (Spain).
- 2017 Member of Organizing Committee of the Workshop “Biodiversity for Resilience to Climate Change on an Ecological Basis in Agricultural Systems”, May 31, 2017, University of Perugia.
- 2017 Member of Organizing Committee of the Workshop: The Umbrian Observatory for Biodiversity, Rural Landscape and Sustainable Planning after 7 years of activities”. March 16, 2017, Trevi (Perugia).
- 2016 Organizer of the session “MCDA and Environmental Management 1”. Organizer and Chair of the session “MCDA and Environmental Management 2”. 28th European Conference on Operational Research, Poznan University of Technology, July 3-6, 2016.
- 2016 Member of Organizing Committee of the Workshop “Appraisal: current situation and prospects”. April 22, 2016, University of Perugia.
- 2015 Organizer of the session “MCDA and Environmental Management - part I”. Organizer and Chair of the session “MCDA and Environmental Management - part II”. 27th European Conference on Operational Research, Strathclyde University (Glasgow), July 12-15, 2015..
- 2015 Member of Organizing Committee of International Workshop of Prof. Andrew Guitierrez, University of Berkeley, CA, USA, Center for Analysis of Sustainable Agro-ecological Systems, “Foundations of bioeconomics: applications to Bt-cotton and suicides in India”. October 7, 2015, University of Perugia.
- 2014 Member of Organizing Committee of International Workshop “Societas – The contractual nature of agroindustrial organizations”. Jean MONNET Project. July 9-10, 2014, University of Perugia.
- 2011 Member of Organizing Committee of International Conference “EVABIO- The economic value of biodiversity”. November 30, 2011, Trevi (Perugia).
- 2010 Member of Scientific and Organizing Committee of International Workshop “Sustainable behaviours in food chains: organizational, marketing and environmental aspects”, September 20-23, 2010, University of Perugia.

## Schools and Courses

- 2018 Member of Organizing Committee of “International Agroecology Short Course”, May 2-5, 2018, Centre “Climate Change and Biodiversity of Lakes and Wetlands” in Polvese Island, Lake Trasimeno, Umbria (Italy).
- 2015 Member of Organizing Committee of International Summer School in Sustainable Management and Promotion of Territory, August 31 - September 6, 2015, University of Perugia.
- 2014 Member of Scientific and Organizing Committee of the European School: “European Multiple Criteria Decision Aiding (MCDA) Spring School: Multiple criteria decision making: a key for sustainability”, May 26-31, 2014, University of Perugia.
- 2012 Member of the organizing group of the course on “Principles and practice of appraisal in agriculture”. In collaboration with Agency for Development of Public Administration.
- 2011 Member of the organizing group of the course on “Expropriations for public utility”, in collaboration with the Research Centre for Appraisal and Land Economics.

## Erasmus Plus Workshops

- 2016 - Prof. Maria Attard, University of Malta on:  
“Environmental externalities of transport”, November 21, 2016.  
“Volunteered Geographic Information and Citizen Science November 22, 2016.  
“Principles of Sustainability - a Mediterranean Perspective”, November 23, 2016.  
“A Geography of the Maltese Islands”, November 25, 2016.
- Prof. David B. López Lluch, University Miguel Hernández de Elche (Spain) on “Spanish wines and vineyards”, October 28, 2016, 2016.
- Prof. Francisco José Del Campo Gomis, University Miguel Hernández de Elche (Spain) on:  
“Ombudsman in Spanish Universities, May 5, 2016.  
“Sustainable development of golf courses in a tourist destination: the case of Alicante”, May 6, 2016.
- 2015 Prof. Sumay Agulló University Miguel Hernández de Elche (Spain) on “Elaboration of a model of environmental management for the owners of natural areas”. An application within the territory of Alicante. April 16, 2015.

Perugia, April 2023

Luisa Paolotti

