



DARIO ESPOSITO PhD

CIVIL ENGINEER, URBAN PLANNER
& PROJECT MANAGER

CONTACT



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Bari, Italy



Date of Birth 07/02/1985

SUMMARY

- Experience of Decision Support Systems, based on the modelling and simulation of systems and phenomena, to improve knowledge and forecast developments in the field of sustainable design of cities and spatial management of complex problems arising in situations of risk. Expertise in management systems for sustainable development in communities, city services and quality of life according to ISO 37101 and ISO 37120 regulations.
- Proficient in evaluating and improving the functioning and safety of buildings, urban services and infrastructures. Knowledge of the analysis of complex urban and territorial systems, in an environmental and risk-related context. Experience in creation of planning tools and models in decision-making support for policies and management of programs. Knowledge of spatial cognitive behavior simulation for studies on the predictive model construction and risk factor analysis.

EDUCATION

- Research Doctorate in Risk and Environmental Territorial and Building Development
- Professional Engineer Licensed Environmental and Civil Field
- Specialist Degree in Building Systems Engineering - Specialization: Urban Recovery and Regeneration
- Bachelor's Degree in Building Engineering - Degree Course - Science of Architecture and Building

WORK EXPERIENCE

Self - employed (Italy)

Freelance and Consultant

2009 - present

- Planning, design, cost estimates and work management for restructuring of historic and residential buildings.
- Design for reinforced concrete buildings and architectural adaptation for buildings and shops.
- Evaluation of concrete deterioration in buildings and study of consolidation measures.
- Technical office consultancy for Regional and City Court. Compilation of evaluation studies for illegal occupation of land and international waste disposal.

Research and Teaching

Joint Programming Initiative: Connecting Climate Knowledge for Europe (JPI-Climate) - Europe

2020

- Scientific Evaluation Committee Member SOLSTICE Call: Enabling Societal Transformation in the Face of Climate Change

Polytechnic University of Bari, Bari - Italy

2019 - present

Department of Civil, Environmental, Territorial, Building Engineering and Chemistry - Research Fellow

- Ministry of Education and Research - National Program for Research and Innovation - Multi-risk analysis for Slow Onset Disaster and Rapid Onset Disaster impact on historic town centers, in order to establish measures of prevention, control and management. Work Package Supervisor to define a multi-agent framework for human behaviour during evacuation in cases of terror attack and earthquake.

Polytechnic University of Bari, Bari - Italy

2014 - 2018

Research Doctorate - Scientific field: Urban Planning and Design Sector: Infrastructures, Transport and Territory

- Research on the analysis and management of complex systems in civil engineering and high level professional activity, in the field of sustainable development through the planning of new projects, innovative processes and study of large and small infrastructures.
- Establishment of innovative tools for urban and regional planning to improve urban service management, spatial planning and regeneration policies.
- Conception of new approaches, models and standards for the improvement of building regulations and protection of land, focusing on its eco-sustainable development.

IT SKILLS

Microsoft Office, Autocad, Archicad, ArcGIS, AutoCADMap, PaintShopPro, CorelDraw, SmartDraw, Prezi, ClaRaF, DIALux, Primus, Termus, DIA, Pajek, NetLogo, Mendeley, FCMappers, R, Inspiration, Mental Modeler, Protégé, DreamWeaver, Unity 3D, Dialogflow, Neo4j, Gephi, Sugar CRM, DepthmapX

SKILLS

- Urban & Spatial Planning
- Decision Support Systems
- Urban Regeneration
- Environmental Impact Assessment
- Research and Development
- Problem Structuring Methods
- Quality, Health, Safety and Environment
- Management and Control
- Project Management
- Community Engagement
- Public Policies & Governance
- Human Spatial Cognition and Behaviour
- Risk Assessment & Management
- Complex System Analysis
- Sustainable Design & Development
- Predictive Modeling
- Multi-Agent Systems
- Expert Systems
- Recommender Systems
- Computational Simulation
- Hospital Acquired Infections
- Fuzzy Cognitive Mapping
- Wayfinding & Spatial Orientation
- Crowd & Pedestrian Dynamics
- Agent-Based Modeling
- Graph Theory and Analysis
- Dynamic Network Visualization
- Egress & Evacuation Models
- Space Syntax Analysis

STRENGTHS

- Complex problem-solving
- Creativity, originality and initiative
- Analytical thinking and innovation
- Reasoning and decision-making
- Proactive and result focused
- Leadership, flexibility and negotiation
- Technology design and initiative
- Active listening and learning strategies
- System analysis and evaluation

Technion - Israel Institute of Technology, Haifa - Israel.
Faculty of Architecture and Town Planning
Visiting Doctoral Researcher

2017

- Project NEXTGENBIM - Researcher - Next-Generation Building Information Modeling to support evaluation of human behavior in built environments - Eu. Research Council Advanced. Grant Formulation of a Decision-Making Support System for strategic planning in risk prevention and control in a healthcare environment; Development of digital simulations of human behavior in a built environment with a Event Based multi-agent approach; Creation of a simulation system to study, monitor and manage propagation dynamics in hospital infections.

University of Milan - Bicocca, Milan - Italy.
Department of IT, Systems and Communications
Seminar speaker

2014

- Analysis and Modeling of human behavior in urban areas for the development of Agent-Based Simulations

Professional experience

Plurima Software s.r.l. - Via Bari, 63, Capurso, Bari - Italy 2018 - 2019
Research and Development Researcher & Project Manager

- Environmental Management Supervisor meeting requirements of ISO 14001
- AFDETEC R&D Project - Project Manager - Development of a novel streamlined method to detect Aflatoxins in milk - funded by Ministry of Economic Development: Agrifood - Planning and implementing a portable spectroscopic device to detect mycotoxins in milk products, development of analytical and predictive model for environmental factors affecting this phenomenon, quality control of production processes.
- DECISION R&D Project - Researcher - Data-drivEn Customer Service InnovatiON - funded by Apulia Region for Scientific Research: Innonetwork - BQS5153. - Project aimed at the experimental development of an innovative Technological Environment for Decision Support based on a Recommender System prototype, able to interpret the needs of users and generate, in real time, personalised and multi-format answers. The system can supply analytical information to support decision-making in different applications and industrial fields, offering advanced customer service operations and technical support within companies.

Edia s.r.l. Publisher, Lecce - Italy 2014 - 2016
Marketing Director of the magazine "Obiettivo Casa in"

- Responsible for the publication of distinguished architectural projects. Supervisor for the Apulia Region and for relationships and contracts with architects, building and interior design companies.

Sistemi Software Integrati, Taranto - Italy 2013 - 2014
Internship of Research and Development

- Research and development of an application project for a Smart-City. Design of virtual agent models in urban areas and common information systems in support of decision-making processes for users and citizens, based on a centric data system of information spread over real time, BEE DDS.

Vilnius Gediminas Technical University, Vilnius - Lithuania 2014
Intensive Erasmus Project: "Sustainable Real Estate Development"

- Sustainability evaluation for the urban regeneration project Skaitėks in the ex-industrial zone of Vilnius to identify the process of building development and the implementation of physical and social conversion of the so-called "brown area". Recommendation of measures aimed to encourage project sustainability and meet real estate demands, considering local needs.
- Designing the Citizen Centered Design Process, a new method proposal of participatory improvement solutions for local councils and citizens and based on a multidisciplinary approach involving key performance indicators of Sustainable Development.

Polytechnic University of Bari, Bari - Italy 2013 - 2014
Department of Architecture and Town Planning
Facilitator and Analyst

- Preliminary planning for the new master-plan of Taranto (Italy): Analyst for strategic planning and eco-sustainable development. Co-organizer of local focus groups with stakeholders to acquire local knowledge and design a shared vision for future development strategies. Result analysis of meetings using a Fuzzy Cognitive Mapping approach and outline of strengths and weaknesses using Sensitivity Analysis to support policy decisions and planning strategies.
- Apulia Region funds for Scientific Research: project - ECOURB: Analysing and modelling air and thermo pollution for urban ecolabelling systems. Identification of principles, criteria, standards and urban ecological study models, with regard to Urban Heat Islands

LANGUAGE SKILLS

- Fluent written and spoken English; Attained Cambridge B2 Certification
- Working knowledge of written and spoken French

INTERNATIONAL TRAINING

- January. 2018 - June 2018 - DigiLab: Contamination Lab., Business Development and Management training. Polytechnic University of Bari (Italy)
- September. 2016 - HCC International School: Artificial Intelligence; Visuo-Spatial Cognition; Human-Computer Interaction; Cognitive Science and Psychology. University of Bremen, (Germany)
- February. 2016 - DACAS, Data and Cities as Complex Adaptive Systems; International Meeting. Manchester School of Architecture & UK Research Councils Project, (United Kingdom).
- September 2015 - International School: The Complexity of Crowds Dynamics: analysis, modeling, simulation. Lake Como School of Advanced Studies & PhD school of Computer Science of the University of Milano - Bicocca (Italy)
- September 2015 - International School: The Complexity of the Ageing Society: Research and Technological Challenges. Lake Como School of Advanced Studies & PhD school of Computer Science of the University of Milano - Bicocca (Italy)
- June 2015 - Joint Summer School in Geotechnics: Institute for Geotechnical Engineering ETH Zurich (Switzerland) and Polytechnic University of Bari (Italy)
- May 2015 - Training Course: Futures Cities, EdX e-learning platform. Chair of Information Architecture, ETH Zurich, (Switzerland)
- April 2015 - Training Course: Maps and Geospatial Revolution, Coursera e-learning platform. Pennsylvania State University (United States)

OTHER INFORMATION

As a local co-ordinator for the National Trust for Italy (FAI) from 2016 to 2019, I was involved in the planning and promotion of public events and school workshops. I have also organised public information campaigns and meetings on environmental protection and the safeguarding of Italian historical and cultural heritage in collaboration with local groups and institutions.

REFERENCES

Eng. Irene Pluchinotta PhD
Institute for Environmental Design and Engineering
The Bartlett Faculty of The Built Environment
University College London, UK
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Prof. Dino Borri
Professor of Spatial Planning and Engineering
Head of the Master Course
in Environmental Planning
Polytechnic University of Bari, Italy
dino.borri@poliba.it

Prof. Kevin M. Curtin, PhD
Professor - Department of Geography
Director - Laboratory for Location Science
The University of Alabama, US
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Prof. Yehuda E. Kalay
Professor Emeritus of Architecture -
UC Berkeley
Dean of the faculty of Faculty of Architecture
and Town Planning
Technion - Israel Institute of Technology
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PUBLICATION LIST

- 2015 Supporting Environmental Planning: Knowledge Management Through Fuzzy Cognitive Mapping. In Cooperative Design, Visualization, and Engineering, CDVE 2015 - ISBN:978-3-319-24131-9. LNCS vol. 9320 Borri, D.; Camarda, D.; Pluchinotta, I.; Esposito, D..
- 2016 Agent-based approach for a complex knowledge management framework in urban governance. In Taking Stock of Complexity Sciences: Evidence of Progress in Urban Planning? Camarda, D.; Esposito, D..
- 2016 Big Data for Urban Planning. Workshop Paper - Data and Cities as Complex Adaptive System. In Cities as Complex Systems; Manchester School of Architecture & UK RCouncil. Esposito.
- 2017 The Cognitive Visualization of Space in City Walking: Spacescape Experimentation in Italy. In Cooperative Design, Visualization, and Engineering, CDVE 2017 - ISBN:978-3-319-66804-8. LNCS vol. 10451 Esposito, D. et al.
- 2017 The cognition of space in outdoor context: Notes from an urban spacescape experimentation. pp.97-106. In PLURIMONDI - ISSN:2420-921X vol. VIII (16) Esposito, D. et al.
- 2018 Il Fuzzy Cognitive Mapping come supporto alle decisioni multiagente nei processi di policymaking urbani: Un caso applicativo. In Archivio di Studi Urbani e Regionali - ISSN:0004-0177 Pluchinotta, I.; Esposito, D.; Camarda, D..
- 2018 A multi-agent spatial-cognition model to represent infection spread in hospitals. In Cognitive Processing 19 (Suppl 1) 2018 - ISSN: 1612-4790 Esposito D. et al.
- 2019 Fuzzy cognitive mapping to support multi-agent decisions in development of urban policymaking. In Sustainable Cities and Society, vol.46. Pluchinotta I., Esposito D., Camarda D.
- 2019 DECISION: Data-drivEn Customer Service Innovation. Ital-IA, Italian National Conference on Artificial Intelligence. Polignano M., Esposito D. et al..
- 2019 Simulating the impact of human spatial behavior on the propagation of hospital-acquired infections transmitted by contact. Collective Spatial Cognition Meeting. Esposito D. et al.
- 2020 Multi-Agent Modelling and Simulation of Hospital Acquired Infection Propagation Dynamics by Contact Transmission in Hospital Wards. In Practical Applications of Agents, Multi-Agent Systems, and Trustworthiness. LNAI Springer (2020) (in press). Esposito, D. et al.
- 2020 A Multi-Agent Simulator for Infection Spread in a Healthcare Environment. In Practical Applications of Agents, Multi-Agent Systems, and Trustworthiness. Lecture Notes in Artificial Intelligence. Springer (2020) (in press). Esposito, D. et al.
- 2020 Decision Support Systems based on Multi-Agent Simulation for Spatial Design and Management of a Built Environment: The Case Study of Hospitals. In 20th International Conference on Computational Science and Its Applications ICCSa 2020. Lecture Notes in Computer Science. Springer (2020) (in press). Esposito, D. et al.
- 2020 Conceptual Framework for Agent-Based Modeling of Human Behavior in Spatial Design. In: Agents and Multi-Agent Systems: Technologies and Applications 2020. Smart Innovation, Systems and Technologies, vol 186. Springer. Esposito, D. et al.
- 2020 Agent-Based Analysis of Urban Spaces Using Space Syntax and Spatial Cognition Approaches: A Case Study in Bari, Italy. Sustainability 2020, 12, 4625. Esposito, D. et al.
- 2020 Dynamic Network Visualization of Space Use Patterns to Support Agent-Based Modelling for Spatial Design In Cooperative Design, Visualization, and Engineering, CDVE 2020. LNCS (in press). Esposito D. et al

I hereby authorize the treatment of my personal data according to the current Italian and European Privacy Policy directives (Law No. 101/2018 and GDPR 679/16).

Bari, 23 - 06 - 2020 Signature