RESEARCH ACTIVITIES

Reinforced Concrete Working Group, European Association of Structural Mechanics Laboratories (competitive research project funded by the European Commission): responsible for experimental activities (pseudodynamic tests on a full-scale four-story reinforced concrete building designed according to Eurocodes 2 and 8). From 01-03-1991 to 31-12-1993.
Prenormative Research in support of Eurocode 8 (PREC8), competitive project funded by the European Commission, Working Group on Infilled Frames: responsible for the contribution of the ELSA laboratory (pseudodynamic tests on a four-story building prototype with different infill panel configurations). From 01-01-1994 to 31-12-1995.
Research project for ASSOBETON on the ductility of prefabricated reinforced concrete columns. Cyclic and pseudodynamic tests on 20 columns with different confinement reinforcement configurations.
From 01-01-1994 to 31-12-1996
Participation in post-earthquake investigation activities with international expert groups for the events of Northridge, Kobe, Kocaeli, Umbria-Marche, Etna, Garda, L'Aquila (direction and responsibility for the European Emergency Response Coordination Centre, MIC), Emilia, Kumamoto... From 17-01-1994 to present.
Prenormative Research in support of Eurocode 8 (PREC8), competitive project funded by the European Commission, Working Group on Bridges: participation in the contribution of the ELSA laboratory (pseudodynamic tests on 1:2.5 scale bridge prototypes, using substructuring techniques for numerical modeling of the deck during tests). From 01-01-1995 to 31-12-1996.
Competitive research project funded by the European Commission for the development of specific rules for Eurocode 8 for the design of infilled frames: Project Manager. Pseudodynamic tests on a full-scale three-story building prototype, designed according to the proposed rules with different infill configurations. The proposed rules were adopted by Eurocode. From 01-01-1995 to 31-12-1998.
Improved Assessment of Steel Buildings Performance during Earthquakes (STEELQUAKE), competitive research project funded by the European Commission: responsible for the contribution of the ELSA laboratory (cyclic and pseudodynamic tests on a full-scale welded steel frame). From 01-05-1995 to 30-04-1998.
3D Site Effects and Soil-Foundation Interaction (TRISEE), competitive research project funded by the European Commission: responsible for the contribution of the ELSA laboratory (tests on a foundation system on a volume of sand with preset relative density, reconstructed using a pluviation technique specifically designed along with saturation techniques). From 01-03-1996 to 30-11-1998.
Research program funded by the Sicily Region through the Multi-Fund Operational Plan for the development of a seismic retrofitting technique for historic tuff masonry. Seismic tests performed on a replica of a portion of the Palazzo Geraci in Palermo. From 01-01-1997 to 31-12-1997.
EUROQUAKE (use of polymer meshes for masonry reinforcement), competitive research project funded by the European Commission: responsible for the contribution of the ELSA laboratory (tests on frames equipped with masonry panels reinforced with polymer meshes, development, and calibration of numerical models). From 01-01-1997 to 31-12-2000.
Research project for SIKA on the use of CFRP for the repair and upgrading of existing reinforced concrete structures.
From 01-01-1998 to 31-12-1998
Detection and Assessment of Seismic Damage in Reinforced Concrete, Transportation, Primary Tunnel Linings (TUNNELLING), competitive research project funded by the European Commission: responsible for the contribution of the ELSA laboratory (experimental activities on

tunnel sections equipped with optical sensors, development of numerical models). From 01-01-1998 to 31-05-2000.
Contract with the University of Potenza for the development of the test laboratory and the provision of reference tests: responsible for the project (assistance with the implementation of the pseudodynamic method, execution of reference tests on a scaled steel building and a three-story RC building designed according to Italian standards). From 01-09-1999 to 30-10-2002.
Seismic Structural Reliability of Existing Underground Water Pipelines (SEISLINES), competitive research project funded by the European Commission: responsible for the contribution of the ELSA laboratory (cyclic tests on a section of a fiber-cement aqueduct pipe, including a joint, immersed in a volume of artificially reconstructed incoherent soil, with the development of specific equipment for accelerated corrosion of pipes). From 01-03-2000 to 31-08-2002.
Research project for MAPEI for the experimental verification of various repair and reinforcement systems.From 01-09-2001 to 28-02-2005
SPEAR (Seismic Performance and Rehabilitation of Existing Buildings), competitive research project funded by the European Commission: Project Manager (consortium activation, proposal coordination, technical management). From 01-09-2001 to 28-02-2005.
ECOLEADER Precast, competitive research project funded by the European Commission (Comparative seismic tests on cast-in-situ and precast concrete buildings): responsible for the contribution of the ELSA laboratory (seismic tests on single-story cast-in-situ and precast buildings, with different levels of construction accuracy). From 01-02-2003 to 31-01-2006.
ISO/TC71 (Concrete, Reinforced Concrete, and Prestressed Concrete), European liaison member: Chairman of two Working Groups tasked with producing standards for connections between precast elements and between structural and non-structural elements. From 20-11-2004 to the present.
SEISRACKS (Development of design rules for industrial steel racking systems in seismic areas), competitive research project funded by the European Commission: responsible for the contribution of the ELSA laboratory (push-over and pseudodynamic tests on various racking system arrangements). From 01-12-2004 to 31-05-2007.
COST activity C25 (Sustainability of constructions, integrated approach to lifetime structural engineering): responsible for the ELSA laboratory and member of the management committee. From 30-03-2006 to 28-02-2010.
Member of TC13 (Seismic Design) of the European Convention for Constructional Steelwork (ECCS). From 28-11-2008 to present.
SAFECAST, competitive research project funded by the European Commission (performance of innovative mechanical connections in precast building structures under seismic conditions): Project Manager (consortium activation, proposal coordination, technical management, drafting of design guidelines). From 01-03-2009 to 29-02-2012.
SAFECLADDING, competitive research project funded by the European Commission (Improved fastening systems of cladding wall panels of precast buildings in seismic zones): responsible for the contribution of the ELSA laboratory (tests on a prototype of a precast building with various configurations of precast panels and different conceptual and technological fastening solutions, development of guidelines). From 01-08-2012 to 30-07-2015.
Institutional project SAFESUST at the Joint Research Centre (Impact of sustainability and energy efficiency requirements on building design and retrofit): Project Manager. From 01-01-2014 to present.
Pilot Project "Integrated Techniques for the Seismic Strengthening and Energy Efficiency of Existing Buildings", under mandate of the European Parliament, Responsible for Action 1, "Overview and Classification of Technologies for Seismic Strengthening and Energy/Environmental Upgrading of Existing Buildings" and Action 3, "Methodologies for Assessing the Combined Effect of Upgrading", 2019-2022.
SEAPLAST, Sustainable Efficient Alternative Plastic Storage. Reuse of plastic waste to partially

replace cement in concrete. JRC competitive project funded under the exploratory research scheme. Responsibility for the project. 2020-2022.
Preparatory Action “**New European Bauhaus Knowledge Management Platform”**, under mandate of the European Parliament. Responsibility for the project. 2022-2024