

1.	Record Nr.	UNINA9910482883103321
	Autore	Laird Nan M. <1943->
	Titolo	Analysis of longitudinal and cluster-correlated data // Nan Laird
	Pubbl/distr/stampa	Institute of Mathematical Statistics
	Disciplina	519.5/35
	Soggetti	Multivariate analysis - Data processing Longitudinal method - Data processing Cluster analysis - Data processing
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
2.	Record Nr.	UNINA9910842288703321
	Titolo	Proceedings of the 7th International Conference on Construction, Architecture and Technosphere Safety : ICCATS 2023 // edited by Andrey A. Radionov, Dmitrii V. Ulrikh, Svetlana S. Timofeeva, Vladimir N. Alekhin, Vadim R. Gasiyarov
	Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024
	ISBN	3-031-47810-X
	Edizione	[1st ed. 2024.]
	Descrizione fisica	1 online resource (611 pages)
	Collana	Lecture Notes in Civil Engineering, , 2366-2565 ; ; 400
	Disciplina	624
	Soggetti	Buildings - Design and construction Fire prevention Buildings - Protection Urban economics Building Construction and Design Fire Science, Hazard Control, Building Safety Urban Economics
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia

Intro -- Preface -- Contents -- Industrial and Civil Engineering --
Method for Calculating the Number of Transitions Through Zero
Degrees in the Outer Layers of Enclosing Structures -- 1 Introduction
-- 2 Problem Formulation -- 3 Development of Calculation Method --
4 Main Results -- 5 Conclusions -- References -- Application
of the Method of Digital Image Processing for Evaluation of Crack
Formation of Paint Coatings -- 1 Introduction -- 2 Materials
and Research Methods -- 3 Research Results -- 4 Conclusion --
References -- Mechanical Behaviour Feature of 3D-Printed Reinforced
Composites -- 1 Introduction -- 2 Materials and Methods -- 3
Experimental Results and Discussion -- 4 Conclusion -- References --
BIM Technology for Creating Digital Doubles of Buildings:
Implementation Analysis of Functional Complexity -- 1 Introduction --
2 Preliminary Analysis of Existing Systems -- 3 Comparison of Existing
Solutions with an Ideal System -- 4 Conclusions -- References --
Accounting for Changes of Silty-Clay Soils Characteristics
in the Ground Base of Buildings and Structures in the Process
of Flooding of Territories -- 1 Introduction -- 2 Laboratory Studies
of the Flooding Process Influence on the Physical and Mechanical
Characteristics of the Soil -- 3 Numerical Modeling of the "Foundation-
Ground Base" System Interaction During Flooding -- 4 Conclusion --
References -- Creation of Indicators of a Qualitative Component
of a Construction Object at Operational Phases -- 1 Introduction -- 2
Research Methods -- 3 Results and Discussions -- 4 Conclusions --
References -- Calculation Methodology for Constituent Wooden Rods
on Discrete Shear Bonds -- 1 Introduction -- 2 Methods -- 3 Results
and Discussion -- 4 Conclusion -- References.
Probabilistic Organizational and Technological Model of Engineering
and Technical Preparation of the Construction of an Industrial Facility
-- 1 Introduction -- 2 Research Methods -- 3 Results and Discussions
-- 4 Conclusions -- References -- The Efficiency of Self-Healing
Cementing Materials -- 1 Introduction -- 2 Production of Samples
of Cement Composite, Microcapsules, and Their Mechanism of Action
-- 3 Methods of Experiments and Results of Work -- 4 Conclusions
from the Results of Experiments -- References -- Influence
of Preliminary Decompression on Soil Swelling Pressure -- 1
Introduction -- 2 Materials and Methods -- 3 Results -- 4 Discussion
-- 5 Conclusions -- References -- Computer Simulation
of a Prefabricated Spatial Framework -- 1 Introduction -- 2 Methods
and Materials -- 3 Results -- 4 Conclusion -- References -- The
Analysis of the Strength Characteristics of Rubber Concrete
as Compared with Ordinary Cement Concrete -- 1 Introduction -- 2
Materials and Methods -- 3 Results -- 4 Discussion -- 5 Conclusion --
References -- Modification of Fine Concrete with Carbon Nanotubes --
1 Introduction -- 2 The Theoretical Part -- 3 The Experimental Part --
4 Conclusions -- References -- Specific Energy Absorbed by Fiber-
Reinforced Concrete Under Static and Dynamic Loading -- 1
Introduction -- 2 Materials and Methods -- 2.1 Research Methodology
-- 2.2 Test Specimens -- 2.3 Loading Modes and Test Equipment -- 3
Results and Discussion -- 3.1 Test Results of Fiber Concrete Under
Different Loading Modes -- 3.2 The Stress-Strain Diagrams
for the Dynamic Loading of Concrete, Fiber-Reinforced Concrete,
and Indirect-Reinforcement Concrete -- 3.3 Comparative Analysis
Using the Specific Energy Absorption -- 4 Conclusions -- References
-- Modification of Fine Multicomponent Concrete with Activated
Component-Based Additive -- 1 Introduction.
2 Materials and Methods -- 2.1 Initial Strength Tests -- 2.2 Isothermal
Calorimetry -- 3 Results and Discussion -- 4 Conclusion -- References

-- Large Panel Reinforced Concrete Buildings Inelastic Behavior Modeling Approach for Nonlinear Seismic Analysis -- 1 Introduction -- 2 Large Panel Precast Buildings Modeling Approach -- 2.1 Description of the Large Panel Precast Building System -- 2.2 Modeling Assumptions -- 2.3 Finite Element Implementation in LIRA SAPR Software -- 2.4 Models Verification -- 3 Conclusion -- References -- Recycling of Waste from the Woodworking Industry into Eco-friendly Materials for Construction -- 1 Introduction -- 2 Experimental Part -- 3 Discussion of the Results -- 4 Summary -- References -- Optimization of Plane Frames with Variable Cross-Section -- 1 Introduction -- 2 Static Analysis of Plane Frame Using Analytical Method -- 2.1 Determination of Internal Forces and Displacements -- 2.2 Compatibility Conditions for Strain -- 2.3 Relationship Between Internal Forces and Strain -- 3 Optimization for Plane Frame with Variable Cross-Section -- 3.1 Flexibility Matrix of Element with Variable Cross-Section -- 3.2 Establishment of Constraint Conditions -- 3.3 Establishment of Objective Function -- 3.4 Calculation Procedure -- 4 Numerical Examples -- 5 Conclusions -- References -- Reducing the Metal Consumption of the Formwork Profile for Monolithic Construction -- 1 Introduction -- 2 Strength Analysis of the Formwork Profile -- 3 Model of Roller Formation of a Form Profile from a Round Welded Pipe in the QForm Program -- 4 Modeling of Roller Forming of a Profile from a Round Welded Pipe 120x2.20 -- 5 Conclusion -- References -- Special and Unique Structures Construction -- Designs and Technologies for Creating Impervious Screens at Reclamation Facilities -- 1 Introduction -- 2 Relevance -- 3 Problem Statement. 4 Theoretical Part -- 5 Study Results -- 6 Practical Relevance -- 7 Conclusions -- References -- Development of Single-Node Finite Elements for the Calculation of Systems with Unilateral Constraints by FEM in the Form of the Classical Mixed Method -- 1 Introduction -- 2 Materials and Methods -- 3 Results and Discussion -- References -- Technique for Solving Finite Element Systems of High-Order Linear Algebraic Equations Describing the Stress-Strain State of One-Dimensional and Two-Dimensional Structures -- 1 Introduction -- 2 Materials and Methods -- 3 Results and Discussion -- 4 Conclusions -- References -- Experimental Studies of Reinforced Concrete Beams, Taking into Account the Reaction of Thrust on Compliant Supports Under Short-Term Dynamic Loading -- 1 Introduction -- 2 Subject, Tasks and Methods -- 3 Research Results and Discussion -- 4 Conclusions -- References -- Freeform Surfaces in Architectural and Structural Design -- 1 Introduction -- 2 Problem Statement -- 3 Physical Spline Simulation -- 3.1 A Cantilever Beam -- 3.2 An Elastic Segment Passing Through Three Points -- 3.3 An Elastic Segment Passing Through Four Points Three Points -- 4 A Composite Bicubic Surface -- 5 Converting a Cubic Parabola to a Bézier Curve -- 6 Bezier Surface -- 7 Conclusion -- References -- Transformation of Vectors the Formation of Unique Architectural Objects When the Frame of the Situation Changes -- 1 Introduction -- 1.1 Relevance of the Issue -- 1.2 Problem Statement -- 2 Theoretical Part -- 2.1 Alternative Concepts of the Formation of Architectural Objects in Connection with the Evolution of the Views of the Organization of Ritual Events -- 2.2 Modern Approaches to the Organization of Penitentiary Facilities in Connection with the with the Change in the Frame of Prevention of Relapse of Crimes. 2.3 Compensatory Techniques for Correcting the Instability of the Urban Environment: "parasitic" Architecture -- 3 Practical the Significance -- 4 Conclusion -- References -- The Process

of Progressive Limiting State and Determination of the Residual Strain Energy of a Structure Based on the Force Method -- 1 Introduction -- 2 Methods and Materials -- 3 Results and Discussion -- 4 Conclusion -- References -- Historic Building Information Modeling in the Context of Architectural Education -- 1 Introduction -- 2 HBIM Technology -- 2.1 The Essence of HBIM, Some Examples -- 2.2 Applications for HBIM -- 3 HBIM in the Educational Process of Universities -- 3.1 Interdisciplinary Education for Work with Heritage -- 3.2 Examples of HBIM Models in the Educational Program "Applied Informatics in Architecture" -- 4 Conclusion -- References -- Urban Engineering and Planning -- The Rationale and Principles of "Smart Urban Planning" -- 1 Introduction -- 2 Foundation: The Theoretical Model of "Smart Urban Planning" -- 3 Conclusion -- References -- Concept Project for the Comprehensive Renovation of the Urban Area of the Microdistrict -- 1 Introduction -- 2 Research Problem -- 3 The USSR Urban Areas Design Basics in Respect to Their Renovation -- 4 Basic Principles of Urban Areas Design Abroad -- 5 Examples of a New Approach to the Design and Renovation of Urban Areas -- 6 Blueprint Project of the Renovation in the Existing Areas with High-Rise Buildings -- 7 Conclusions -- References -- Contextual Approach in the Process of Integrating Modern Buildings into the Architectural and Spatial Environment of Historical Centers in Large Cities -- 1 Introduction -- 2 Basic Principles and Methods of Integrating New Construction Objects into the Historical Urban Environment -- 3 Environmental Adaptation Methods.

4 Approbation (Conceptual Project Proposal) Based on the Results of the Analysis of Environmental Adaptation Methods in the Historical Center of a Large City.

Sommario/riassunto

This book highlights recent findings in civil and environmental engineering and urban planning, and provides an overview of the state of the art in these fields, mainly in Russia and Eastern Europe. A broad range of topics and issues in modern engineering are discussed, including construction, buildings and structures, advanced materials, innovative technology, methods and techniques in civil engineering, heating, gas supply, water supply and sewerage, foundation engineering, BIM, structural reliability, durability and monitoring, special and unique structures construction (bridge, tunnel, road, railway engineering), design and construction of hydraulic structures, concrete engineering, urban regeneration and sustainable development, urban transport system, engineering structure safety and disaster prevention, water resources engineering, water and wastewater treatment, recycling and reuse of wastewater, etc. The volume gathers selected papers from the 7th International Conference on Construction, Architecture and Technosphere Safety (ICCATS), held in Sochi, Russia in September 2023. The authors are experts in various fields of engineering, and all papers have been carefully reviewed.
