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Anne-Kristin Wohlbier,
CEO

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The "Specialized Collections" is meant for practical engineers, scientific researchers of R&D institutions and groups, education programs dedicated to materials science and engineering. These editions are designed to be reference books containing an overview of published papers representing the latest trends in science and applied technologies.

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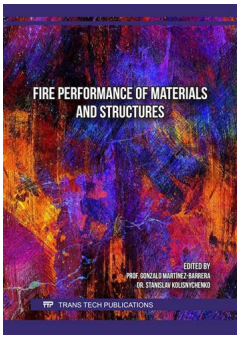

Fire Performance of Materials and Structures

Volume in the series: 42

Aggregated Book

Edited by: Prof. Gonzalo Martínez-Barrera and Dr. Stanislav Kolisnychenko

The book "Fire Performance of Materials and Structures" focuses on analysing the fire resistance of various structural materials and building structures. The edition contains selected articles published over the last two years by Trans Tech Publications Inc., covering critical issues preserving structural and functional stability in elevated temperatures and fire action conditions.

Topics: Building Materials, Civil Engineering, Construction, Materials Science

Keywords: Bearing Wall, Biocomposite, Biopolymer, Combustion Process, Crack Formation, Crossbar, Elevated Temperature, Fire Resistance, Fire Test, Green Concrete, Mechanical Properties, Metallic Structure, Modelling, Numerical Simulation, Recycle Coarse Aggregate, Reinforced Concrete, Thermal Decomposition, Thermodynamic Calculation

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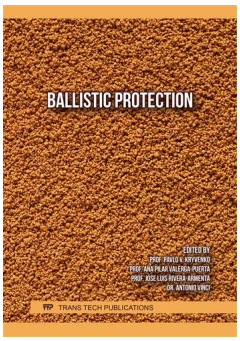

Ballistic Protection

Volume in the series: 41

Aggregated Book

Edited by: Prof. Pavlo V. Kryvenko, Prof. Ana Pilar Valerga-Puerta, Prof. Jose Luis Rivera-Armenta and Dr. Antonio Vinci

The book provides an overview of the latest research results and engineering solutions in the area of development of materials and technologies for ballistic protection of people, equipment and structures. The edition features articles published between 2020 and 2024 by Trans Tech Publications Ltd., covering the processing methods, microstructure and mechanical characterisation of modern-day protection materials.

Topics: Building Materials, Civil Engineering, Construction, Materials Science, Mechanics

Keywords: Alloy, Aramid Fabric, Armour, Ballistic Protection, Ballistic Resistance, Ballistic Test, Blast Load, Building Materials, Ceramic Matrix Composites, Ceramics, Composite, Concrete, Concrete Fortification, Energy Absorption, Fibers, Fracture Analysis, Impact Resistance, Kevlar, Liquid Silicon Infiltration, Mechanical Properties, Military Structures, Polymer, Reinforcement, Sintering, Steel

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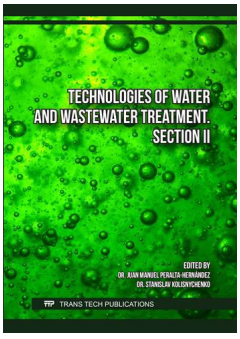

Technologies of Water and Wastewater Treatment. Section II

Volume in the series: 40

Aggregated Book

Edited by: Dr. Juan Manuel Peralta-Hernández and Dr. Stanislav Kolisnychenko

This is the second book in a two-section series focused on materials and technologies for water and wastewater treatment. By highlighting cutting-edge advancements, this edition aims to combine scientific research and engineering practice in the biotreatment of water resources and wastewater. With its interdisciplinary approach, the book serves as a comprehensive resource for professionals and researchers seeking to develop efficient and eco-friendly methods for water purification and wastewater treatment.

Topics: Environmental Engineering, Materials Science, Nanoscience

Keywords: Bentonite, Biochar, Biocoagulants, Biological Purification, Bioremediation, Bio-Sand Filter, Biosorbent, Biosorption, Dye Wastewater, Green Building Materials, Green Synthesis, Heavy Metals, Iron Nanoparticles, Microbial Fuel Cell, Natural Clay, Natural Zeolite, Organic Contaminants, Phytoremediation, Sewage Sludge, Sludge Recycling, Wastewater Deacetylation, Wastewater Treatment, Water Purification

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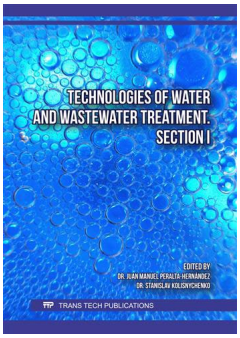

Technologies of Water and Wastewater Treatment. Section I

Volume in the series: 39

Aggregated Book

Edited by: Dr. Juan Manuel Peralta-Hernández and Dr. Stanislav Kolisnychenko

This is the first book in a two-section series focused on materials and technologies for water and wastewater treatment. The edition focuses on research results related to the development of novel materials and industrial processes, starting from membranes and membrane technologies and ending with oxidation and photocatalytic pollutants degradation in aqueous solutions designed to address contemporary environmental concerns, providing valuable insights for engineers and academics addressing ecological challenges.

Topics: Environmental Engineering, Industrial Engineering, Materials Science, Nanoscience

Keywords: Activated Carbon, Adsorbent, Adsorption Properties, Advanced Oxidation Processes, Aeration, Capacitive Deionization, Catalytic Activity, Coagulant, Coagulation, Composite, Contaminants Removal, Cost Analysis, Desalination, Dye Removal, Electrocoagulation, Electrodialysis, Fenton Process, Filtration, Flocculation, Heavy Metals, Hydrogel, Hydrogen Peroxide, Hydrophobicity, Mechanical Properties, Membrane, Membrane Technology, Nanocomposite, Organic Pollutants, Oxidation, Ozonation, Permeate Flux, Photocatalysts, Photocatalytic Degradation, Polymer, Process Optimisation, Reverse Osmosis, Separation, Sorbent, Sorption, Wastewater Treatment, Water Purification, Water Treatment Plant, Zeolite

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	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*1072 pages, 2025*

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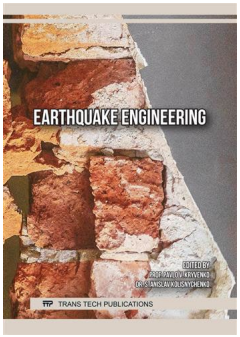

Earthquake Engineering

Volume in the series: 38

Aggregated Book

Edited by: Prof. Pavlo V. Kryvenko and Dr. Stanislav Kolisnychenko

The book provides an overview of the latest achievements and engineering solutions in earthquake engineering. This edition features articles published between 2019 and 2023 by Trans Tech Publications Ltd., covering various aspects of the behaviour of buildings and infrastructural objects under seismic loads, as well as the development of engineering methods to enhance their seismic resistance.

Topics: Building Materials, Civil Engineering, Construction, Materials Science, Mechanics

Keywords: Architectural Heritage, Beam, Bridge, Column, Composite Strengthening, Concrete, Damage Assessment, Damper, Earthquake Engineering, Flexible Materials, Frame, Masonry, Masonry Building, Mechanical Properties, Multi-Story Building, Numerical Simulation, Pile, Rehabilitation, Reinforced Concrete, Retrofitting, Seismic Design, Seismic Isolation, Seismic Reinforcement, Seismic Resistance, Seismic Vulnerability, Shake Table Test, Shear Wall, Slab, Soil Settlements, Steel, Strengthening, Structural Member, Structure, Textile Reinforced Mortar, Wall Panel

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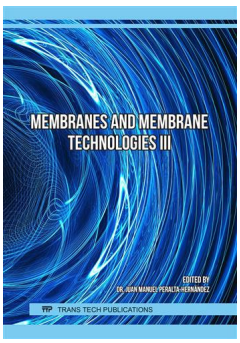

Membranes and Membrane Technologies III

Volume in the series: 37

Aggregated Book

Edited by: Dr. Juan Manuel Peralta-Hernández

We are introducing the third volume of a special book series on membranes and membrane technologies, which contains articles published by Trans Tech Publications Ltd. in 2020-2023 years. "Membranes and Membrane Technologies III", like the previous two editions, covers a wide range of engineering solutions in the development and production of various types of membranes and their use in water and wastewater treatment, gas separation, and technological flow separation in the chemical industry. The edition will be helpful to specialists in water purification, wastewater treatment, petrochemical and chemical industries.

Topics: Environmental Engineering, Manufacturing, Materials Science, Nanoscience

Keywords: Composite Membrane, Desalination, Distillation, Filtration, Gas Separation, Hybrid Membrane, Inorganic Membrane, Liquid Membrane, Membrane Technology, Mixed Matrix Membrane, Pervaporation, Polymeric Membrane, Reverse Osmosis, Separation, Wastewater Treatment, Water Purification

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	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*704 pages, 2024*

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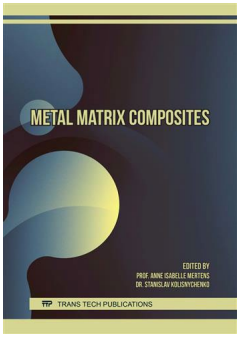

Metal Matrix Composites

Volume in the series: 36

Aggregated Book

Edited by: Prof. Anne Isabelle Mertens and Dr. Stanislav Kolisnychenko

This book reviews the latest achievements in creating and investigating metal matrix composite materials. The edition contains articles published in the last few years by Trans Tech Publications Ltd., covering many aspects of the synthesis and properties' investigation, processing technologies, and application of these composite materials.

Topics: Manufacturing, Materials Science, Nanoscience

Keywords: Alloy, Ceramics, Coating, Drilling, Extrusion, Hybrid Metal Matrix Composite, Laser Deposition, Laser Powder Bed Fusion, Mechanical Properties, Metal Matrix Composite, Microstructure, Microwave Sintering, Milling, Powder Metallurgy, Reinforcement, Rheo-Squeeze Casting, Selective Laser Melting, Semi-Solid Processing, Steel, Stir Casting, Tribological Properties, Welding

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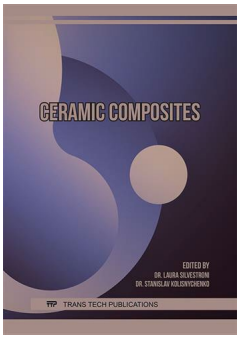

Ceramic Composites

Volume in the series: 35

Aggregated Book

Edited by: Dr. Laura Silvestroni and Dr. Stanislav Kolisnychenko

This book collects some of the latest achievements in synthesis, processing, analysis of properties and technologies of ceramic composite materials' machining and application. This edition contains selected articles published by Trans Tech Publications Ltd. over the last few years.

Topics: Materials Science

Keywords: Ceramic Matrix Composite, Coating, Compaction, Cutting, Dielectric Properties, Forming Pressure, Glass-Ceramics, Heat Treatment, Injection Molding, Joining, Luminescence Properties, Mechanical Properties, Microstructure, Powders Metallurgy, Reinforcement, Sintering, Spark Plasma Sintering, Thermal Shock Resistance, Wet-Chemical Coating, Wire Electric Discharge Machining

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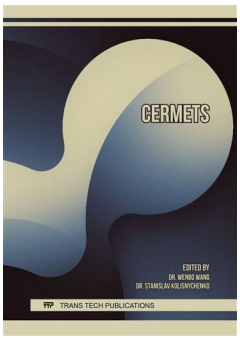

Cermets

Volume in the series: 34

Aggregated Book

Edited by: Dr. Wenbo Wang and Dr. Stanislav Kolisnychenko

This book, a review of the latest trends in the area of synthesis, properties research, treatment and applications of cermets, contains articles published by Trans Tech Publications Ltd. in the last few years. The edition will be helpful and interesting to a broad audience of materials science and machinery specialists.

Topics: Materials Science

Keywords: Ball Milling, Ceramic Phase, Cermet, Coating, Composite, Cryomilling, Explosive Loading, Hard Turning, Mechanical Properties, Metallic Phase, Microstructure, Powder Metallurgy, Sintering

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	eBook Multi-User:	**US$ 219.00/ EUR 219.00**	*218 pages, 2023*
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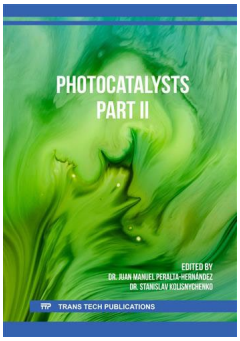

Photocatalysts. Part II

Volume in the series: 33

Aggregated Book

Edited by: Dr. Juan Manuel Peralta-Hernández and Dr. Stanislav Kolisnychenko

Synthesis methods, analysis of photocatalytic properties and technological features of the application of photo-catalytically active materials for environmental pollution degradation, in the composition of modern building materials, and in the processes of energy conversion are topics of the presented specialised collection. This book is the second part of the series "Photocatalysts" which contains articles published by Trans Tech Publications Ltd. in the last few years. The edition will be helpful and interesting to a broad audience of photocatalysis and environmental protection specialists.

Topics: Building Materials, Materials Science, Nanoscience

Keywords: Air Pollution, Carbon Quantum Dots, Cement, Composite, Concrete, Graphene, Green Synthesis, Light Absorption, Metal Oxide Semiconductor, Methanol, Nanocomposite, Nanoparticles, Organic Dye, Photocatalysis, Photocatalyst, Photocatalytic Fuel Cell, Photocatalytic Hydrogen Production, Photodegradation, Pollutant, Polluted Building Components, Surface Modification, Ternary Composite Photocatalyst, Thin Film, Wastewater Treatment, Water Pollution

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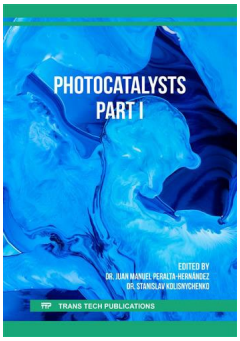

Photocatalysts. Part I

Volume in the series: 32

Aggregated Book

Edited by: Dr. Juan Manuel Peralta-Hernández and Dr. Stanislav Kolisnychenko

Synthesis methods, analysis of photocatalytic properties and technological features of the application of photo-catalytically active materials for environmental pollution degradation for other applications are topics of the presented specialised collection. This book is the first part of the series "Photocatalysts" which contains articles published by Trans Tech Publications Ltd. in the last few years. The edition will be helpful and interesting to a broad audience of photocatalysis and environmental protection specialists.

Topics: Bioscience and Medicine, Materials Science, Nanoscience

Keywords: Air Pollution, Antimicrobial Activity, Carbon Quantum Dots, Composite, Graphene, Green Synthesis, Heteroatom Doping, Light Absorption, Metal Oxide Semiconductor, Nanocomposite, Nanoparticles, Organic Dye, Photocatalysis, Photocatalyst, Photodegradation, Pollutant, Surface Modification, Ternary Composite Photocatalyst, Thin Film, Wastewater Treatment, Water Pollution

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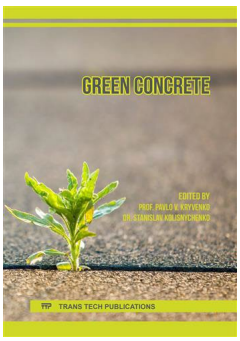

Green Concrete

Volume in the series: 31

Aggregated Book

Edited by: Prof. Pavlo V. Kryvenko and Dr. Stanislav Kolisnychenko

This book, a review of the latest trends in the development, properties research, and production of green concrete, contains articles published by Trans Tech Publications Ltd. in the last few years. The edition will be helpful and interesting to a broad audience of specialists in the concrete production and construction industry.

Topics: Building Materials, Construction, Materials Science

Keywords: Aggregate, Asphalt Dust Waste, Blast Furnace Slag, Calcinated Clay, Cement Components, Concrete Constituents, Demolition Waste, Durability, Environmental Efficiency, Fibre Waste, Fillers, Fly Ash, Foundry Sand, Geopolymer Concrete, Glass Waste, Green Concrete, Recycling, Reinforcement, Rice Husk Ash, Rubber Crumb, Self-Compacting Concrete, Sustainability, Wood Ash

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Sustainable Materials

Volume in the series: 30

Aggregated Book

Edited by: Prof. Jose Luis Rivera-Armenta and Dr. Stanislav Kolisnychenko

This book, a review of the latest trends in the practice of production and synthesis of various types of materials on principles of sustainability, contains articles published by Trans Tech Publications Ltd. in the last few years. The edition will be helpful and interesting to a broad audience of specialists in materials science.

Topics: Materials Science, Nanoscience

Keywords: Aluminum Dross Waste, Bioceramics, Biocomposite, Biodegradation, Biomass, Biopolymer, Coating, Filler, Fly Ash, Inorganic Waste, Lubricant, Mechanical Properties, Natural Fiber, Organic Inhibitor, Organic Waste, Slag, Supercapacitor, Sustainability

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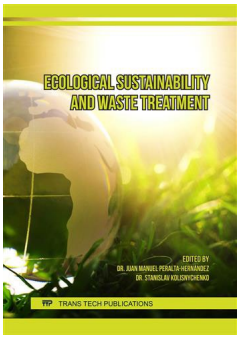

Ecological Sustainability and Waste Treatment

Volume in the series: 29

Aggregated Book

Edited by: Dr. Juan Manuel Peralta-Hernández and Dr. Stanislav Kolisnychenko

This book, a review of the latest trends in the practice of ecological protection and waste treatment, contains articles published by Trans Tech Publications Ltd. in the last few years. The edition will be helpful and interesting to a broad audience of specialists in environmental engineering and engineers-technologists.

Topics: Construction, Environmental Engineering, Industrial Engineering, Manufacturing, Materials Science, Nanoscience

Keywords: Agro Waste, Biomass, Construction, Environmental Engineering, Environmental Impact, Hydrothermal Liquefaction, Mine Drainage, Soil Fertility, Sustainable Development, Waste Management, Waste Treatment, Wastewater Treatment, Water Resources, Water Treatment

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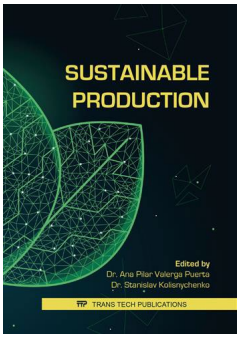

Sustainable Production

Volume in the series: 28

Aggregated Book

Edited by: Prof. Ana Pilar Valerga-Puerta and Dr. Stanislav Kolisnychenko

This book, a revue of the latest trends in the practice of creation of sustainable production systems and technologies, contains articles published by Trans Tech Publications Ltd. in the 2016 - 2021 years. The edition will be helpful and interesting to a broad audience of specialists in industrial engineering and engineers-technologists.

Topics: Industrial Engineering, Manufacturing, Materials Science, Mechanical Engineering

Keywords: Biodegradable Polyester, Circular Economy, Cold Spray, Corporate Social Responsibility, Direct Digital Manufacturing, Energy Efficiency, Energy Footprint, Green Manufacturing, Holonic Paradigm, Hot Extrusion, Lean Manufacturing, Lifecycle, Natural Solvent, Performance Management, Sustainability, Sustainable Production, Water Consumption, Wood Pyrolysis

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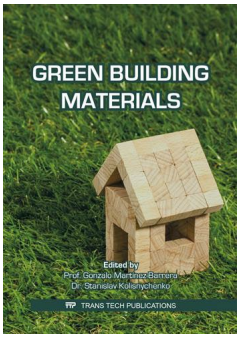


Green Building Materials

Volume in the series: 27

Aggregated Book

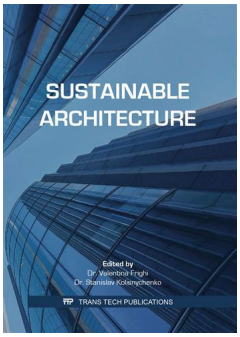
Edited by: Prof. Gonzalo Martínez-Barrera and Dr. Stanislav Kolisnychenko

This book, a revue of the latest trends in the development, properties research, production and application of green building materials, contains articles published by Trans Tech Publications Ltd. in the 2016 - 2021 years. The edition will be helpful and interesting to a broad audience of specialists in green construction.

Topics: Building Materials, Construction, Materials Science

Keywords: Binder, Biocomposite, Bio-Fibre, Brick, Cement, Cementitious Composite, Clay, Components Replacement, Dredged Material, Dune Sand, Earthen Levee, Fly Ash, Geotechnics, Green Materials, Insulation, Lime, Limestone Waste, Masonry, Mechanical Properties, Mortar, Paper Waste, Paste, Pavement, Plaster, Plate, Recycled Fine Aggregate, Rock Wool, Slag, Sustainability, Tile, Waste Building Materials, Wood

Prices:			
	Print:	**US$ 480.00/ EUR 480.00**	Print: 978-3-0364-0096-9
	eBook Single-User:	**US$ 198.00/ EUR 198.00**	eBook: 978-3-0364-1096-8
	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*642 pages, 2022*
			https://www.scientific.net/978-3-0364-0096-9/book



Sustainable Architecture

Volume in the series: 26

Aggregated Book

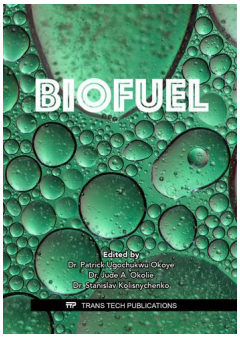
Edited by: Dr. Valentina Frighi and Dr. Stanislav Kolisnychenko

This book, a revue of the latest trends in the practice of sustainable architectural design, contains articles published by Trans Tech Publications Ltd. in the 2016 - 2021 years. The edition will be helpful and interesting to a broad audience of researchers and specialists within the Architecture, Engineering and Construction (AEC) sector.

Topics: Building Materials, Civil Engineering, Construction, Transportation

Keywords: Architecture, Building Design, Building Energy Performance, Climatic Adaptation, Energy Efficiency, Freight Transportation System, Life Cycle Assessment, Sustainability, Sustainable Urban Development, Territorial Development, Transport Infrastructure, Urban Planning, Urbanisation

Prices:			
	Print:	**US$ 220.00/ EUR 220.00**	Print: 978-3-0364-0110-2
	eBook Single-User:	**US$ 198.00/ EUR 198.00**	eBook: 978-3-0364-1110-1
	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*378 pages, 2022*
			https://www.scientific.net/978-3-0364-0110-2/book



Biofuel

Volume in the series: 25

Aggregated Book

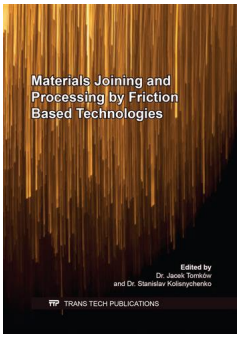
Edited by: Dr. Patrick Ugochukwu Okoye, Dr. Jude A. Okolie and Dr. Stanislav Kolisnychenko

This book presents an overview of the latest trends in the area of biofuel production and utilisation. The collection contains articles published by Trans Tech Publications Ltd. between the years 2019 and 2020. Articles cover diverse aspects of biomass pretreatment and conversion technologies, present results of an evaluation of the physicochemical properties of various biofuels, and contain an analysis of the compatibility of exploitative equipment.

Topics: Industrial Engineering, Manufacturing, Materials Science, Mechanical Engineering, Mechanics

Keywords: Anaerobic Digestion, Biocrude Oil, Biodiesel, Biodiesel Blend, Bioethanol, Biofuel, Biogas, Biomass, Biomass Pre-Treatment, Bio-Oil, Biorefinery, Catalyst, Cracking, Dehydration, Diesel Engine, Emission, Esterification, Ethyl Ester, Fermentation, Gasification, Glycerol, Hydrocracking, Liquefaction, Methyl Ester, Pyrolysis, Torrefaction, Transesterification

Prices:			
	Print:	**US$ 330.00/ EUR 330.00**	Print: 978-3-0357-2765-4
	eBook Single-User:	**US$ 198.00/ EUR 198.00**	eBook: 978-3-0357-3827-8
	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*666 pages, 2022*
			https://www.scientific.net/978-3-0357-2765-4/book



Materials Joining and Processing by Friction Based Technologies

Volume in the series: 24

Aggregated Book

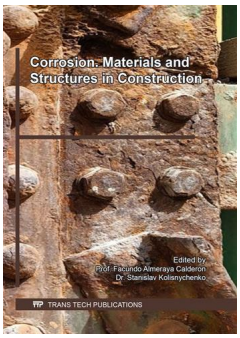
Edited by: Dr. Jacek Tomków and Dr. Stanislav Kolisnychenko

This book, a revue of some latest trends in the development of friction-based technologies for materials joining and processing, contains articles published by Trans Tech Publications Ltd. in the 2019 - 2020 years. The edition will be helpful to a broad audience of researchers and engineers from developing and modernisation of mentioned technologies in mechanical engineering.

Topics: Manufacturing, Materials Science, Mechanical Engineering, Mechanics

Keywords: Alloy, Aluminium, Analytical Modeling, Butt Weld, Dissimilar Joint, Equipment, Friction Stir Forming, Friction Stir Processing, Friction Stir Welding, Friction Welding, Lap Joint, Mechanical Properties, Metal Matrix Composite, Microstructure, Numerical Simulation, Process Parameters, Steel, Surface Smoothing, Thermal Model, Tool, Weld Zone

Prices:			
	Print:	**US$ 330.00/ EUR 330.00**	Print: 978-3-0357-1827-0
	eBook Single-User:	**US$ 198.00/ EUR 198.00**	eBook: 978-3-0357-2636-7
	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*524 pages, 2021*
			https://www.scientific.net/978-3-0357-1827-0/book



Corrosion. Materials and Structures in Construction

Volume in the series: 23

Aggregated Book

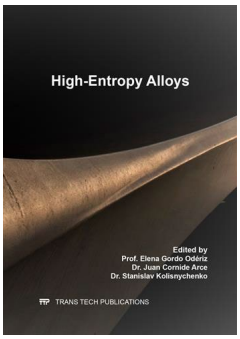
Edited by: Prof. Facundo Almeraya Calderon and Dr. Stanislav Kolisnychenko

This edition from the series “Corrosion” contains articles published by Trans Tech Publications in the 2017 - 2020 years. The volume “Corrosion. Materials and Structures in Construction” presents readers with a wide range of scientific research results in the studying of corrosion degradation and corrosion behaviour of materials and structures in construction, and the engineering solutions in the development of technologies and means for the protection of them against the influence of aggressive environments. This collection will be valuable and exciting to a broad audience of researchers and engineers from civil engineering and architecture.

Topics: Building Materials, Civil Engineering, Construction, Manufacturing, Materials Science, Mechanics

Keywords: Alloy, Anti-Corrosive Paint, Biocorrosion, Brine Solution, Building Structure, Cathodic Protection, Coated Rebar, Coating, Concrete, Corroded Reinforcement, Corrosion, Corrosion Rate, Corrosion Resistance, Corrosive Environment, Electrochemical Behaviour, Inhibition, Mechanical Properties, Sacrificial Anode, Steel

Prices:			
	Print:	**US$ 330.00/ EUR 330.00**	Print: 978-3-0357-1797-6
	eBook Single-User:	**US$ 198.00/ EUR 198.00**	eBook: 978-3-0357-3797-4
	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*530 pages, 2021*
			https://www.scientific.net/978-3-0357-1797-6/book



High-Entropy Alloys

Volume in the series: 22

Aggregated Book

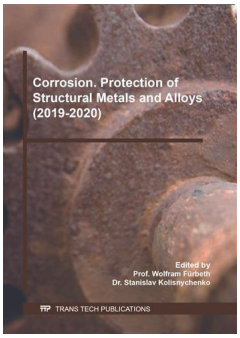
Edited by: Prof. Elena Gordo Odériz, Dr. Juan Cornide Arce and Dr. Stanislav Kolisnychenko

This book, a snapshot of the latest trends in high-entropy alloys, contains articles published by Trans Tech Publications Ltd. in the 2017 - 2020 years, which covers many aspects of synthesis technologies, properties analysis results, and a description of some methods of these alloys application.

Topics: Manufacturing, Materials Science, Mechanical Engineering, Mechanics

Keywords: Composite, High-Entropy Alloy, High-Entropy Alloy Coating, High-Pressure Torsion, Interdiffusion, Laser Cladding, Mechanical Alloying, Mechanical Properties, Microstructure, Phase Formation, Powder, Severe Plastic Deformation, Spark Plasma Sintering, Welding

Prices:			
	Print:	**US$ 330.00/ EUR 330.00**	Print: 978-3-0357-1656-6
	eBook Single-User:	**US$ 198.00/ EUR 198.00**	eBook: 978-3-0357-3656-4
	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*378 pages, 2021*
			https://www.scientific.net/978-3-0357-1656-6/book



Corrosion. Protection of Structural Metals and Alloys (2019-2020)

Volume in the series: 21

Aggregated Book

Edited by: Prof. Wolfram Fürbeth and Dr. Stanislav Kolisnychenko

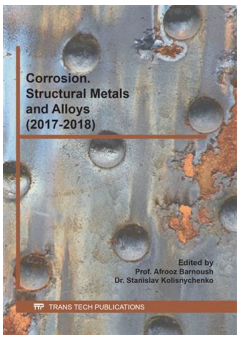
This issue from the topic series “Corrosion” contains articles published by Trans Tech Publications in the 2019 - 2020 years. The volume “Corrosion. Protection of Structural Metals and Alloys (2019-2020)” is the second book on this topic and presents readers with a wide range of research results and engineering solutions in providing anti-corrosion protection of structural metals, alloys, and engineering objects. This collection will be valuable and exciting to a broad audience of researchers and engineers from various modern manufacturing areas.

Topics: Manufacturing, Materials Science, Mechanical Engineering, Mechanics

Keywords: Alloy, Anodising, Anti-Corrosive Paint, Coatings, Conversion Coating, Conversion Treatment, Corrosion, Corrosion Inhibitor, Corrosion Protection, Corrosion Resistance, Corrosive Environment, Electrochemical Behaviour, Electrodeposition, Electrophoretic Deposition, Electroplating, Galvanising, High-Temperature Corrosion, Micro-Arc Oxidation, Oxide Film, Passivation, Plasma-Electrolytic Oxidation, Self-Healing, Steel, Surface Treatment

Prices:
Print: **US$ 275.00/ EUR 275.00**
eBook Single-User: **US$ 198.00/ EUR 198.00**
eBook Multi-User: **US$ 347.00/ EUR 347.00**

Print: 978-3-0357-1394-7
eBook: 978-3-0357-3394-5
406 pages, 2021
https://www.scientific.net/978-3-0357-1394-7/book



Corrosion. Structural Metals and Alloys (2017-2018)

Volume in the series: 20

Aggregated Book

Edited by: Prof. Afrooz Barnoush and Dr. Stanislav Kolisnychenko

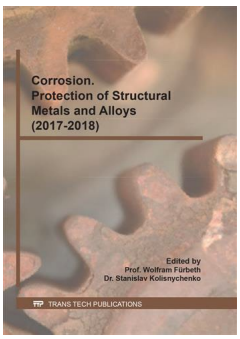
This issue from the topic series “Corrosion” contains articles published by Trans Tech Publications in the 2017 - 2018 years. The volume presents readers with a wide range of scientific research results and engineering solutions in studying corrosion properties and corrosion behaviour of structural metals and alloys. We hope this collection will be useful and interesting to a broad audience of researchers and engineers from various modern manufacturing areas.

Topics: Manufacturing, Materials Science, Mechanical Engineering, Mechanics

Keywords: Alloy, Corrosion, Corrosion Rate, Corrosion Resistance, Corrosive Environment, Crevice Corrosion, Electrochemical Behaviour, Electrochemical Corrosion Properties, Electrochemical Impedance Spectroscopy, Heat Treatment, High-Temperature Corrosion, Hydrogen Embrittlement, Intergranular Corrosion, Manufacturing Process, Mechanical Properties, Oxidation, Pitting, Potentiodynamic Polarization, Rust, Stainless Steel, Steel, Stress Corrosion Cracking, Surface Modification

Prices:
Print: **US$ 352.00/ EUR 352.00**
eBook Single-User: **US$ 198.00/ EUR 198.00**
eBook Multi-User: **US$ 347.00/ EUR 347.00**

Print: 978-3-0357-1229-2
eBook: 978-3-0357-3229-0
630 pages, 2021
https://www.scientific.net/978-3-0357-1229-2/book



Corrosion. Protection of Structural Metals and Alloys (2017-2018)

Volume in the series: 19

Aggregated Book

Edited by: Prof. Wolfram Fürbeth and Dr. Stanislav Kolisnychenko

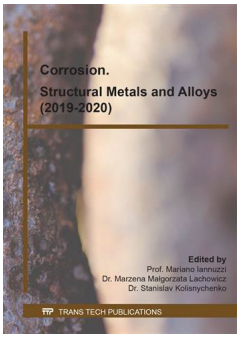
This issue from the topic series “Corrosion” contains articles published by Trans Tech Publications in the 2017 - 2018 years. The volume “Corrosion. Protection of Structural Metals and Alloys (2017-2018)” presents readers with a wide range of research results and engineering solutions in providing the anti-corrosion protection of structural metals, alloys, and engineering objects. We hope this collection will be useful and interesting to a broad audience of researchers and engineers from various modern manufacturing areas.

Topics: Manufacturing, Materials Science, Mechanical Engineering, Mechanics

Keywords: Alloy, Anodising, Anti-Corrosive Paint, Cathodic Protection, Coatings, Conversion Coating, Conversion Treatment, Corrosion, Corrosion Inhibitor, Corrosion Protection, Corrosion Resistance, Corrosive Environment, Electrochemical Behaviour, Electrodeposition, Electrophoretic Deposition, Electroplating, Galvanising, High-Temperature Corrosion, Micro-Arc Oxidation, Oxide Film, Passivation, Plasma-Electrolytic Oxidation, Sacrificial Anode, Steel, Surface Treatment

Prices:
Print: **US$ 330.00/ EUR 330.00**
eBook Single-User: **US$ 198.00/ EUR 198.00**
eBook Multi-User: **US$ 347.00/ EUR 347.00**

Print: 978-3-0357-1526-2
eBook: 978-3-0357-3526-0
578 pages, 2021
https://www.scientific.net/978-3-0357-1526-2/book



Corrosion. Structural Metals and Alloys (2019-2020)

Volume in the series: 18

Aggregated Book

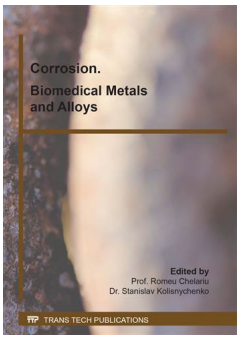
Edited by: Prof. Mariano Iannuzzi, Prof. Marzena Małgorzata Lachowicz and Dr. Stanislav Kolisnychenko

This issue from the topic series “Corrosion” contains articles published by Trans Tech Publications in the 2019 - 2020 years. The volume presents readers with a wide range of scientific research results and engineering solutions in studying corrosion properties and corrosion behaviour of structural metals and alloys. This collection will be useful and interesting to a broad audience of researchers and engineers from various modern manufacturing areas.

Topics: Manufacturing, Materials Science, Mechanical Engineering, Mechanics

Keywords: Alloy, Corrosion, Corrosion Rate, Corrosion Resistance, Corrosive Environment, Crevice Corrosion, Electrochemical Behaviour, Electrochemical Corrosion Properties, Electrochemical Impedance Spectroscopy, Embrittlement, Heat Treatment, High-Temperature Corrosion, Intergranular Corrosion, Manufacturing Process, Mechanical Properties, Pitting, Potentiodynamic Polarization, Rust, Steel, Stress Corrosion Cracking, Surface Modification

Prices:			
	Print:	**US$ 275.00/ EUR 275.00**	Print: 978-3-0357-1094-6
	eBook Single-User:	**US$ 198.00/ EUR 198.00**	eBook: 978-3-0357-3094-4
	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*402 pages, 2021*
			https://www.scientific.net/978-3-0357-1094-6/book



Corrosion. Biomedical Metals and Alloys

Volume in the series: 17

Aggregated Book

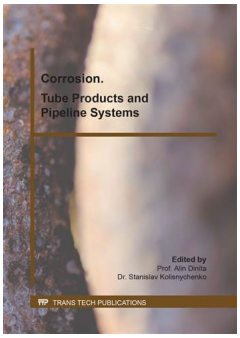
Edited by: Prof. Romeu Chelariu and Dr. Stanislav Kolisnychenko

This issue from the topic series “Corrosion” contains articles published by Trans Tech Publications in 2017 - 2020. The volume covers many aspects of the corrosive behaviour of metallic biomaterials - from corrosion resistance studies to biocompatible coatings. We hope this collection will be useful and interesting to a broad audience of researchers and engineers from the area of development and research properties of metallic biomaterials and practitioners who utilize implantable and non-implantable devices.

Topics: Bioscience and Medicine, Manufacturing, Materials Science, Mechanics

Keywords: Anodizing, Aqueous Solution Method, Artificial Saliva, Biocompatibility, Casting, Coating, Corrosion, Corrosion Behavior, Corrosion Fatigue, Corrosion Protection, Corrosion Resistance, Crevice Corrosion, Cytocompatibility, Electrochemical Impedance Spectroscopy, Electron Beam Cladding, Glow Discharge Method, Hydrogen Evolution, Immersion Test, Ion Implantation, Magnetron Sputtering, Mechanical Properties, Metallic Biomaterial, Microhardness, Microstructure, Nitriding, Passivation, Permanent Implantable Device, Pitting Corrosion, Plastic Deformation, Potentiodynamic Polarization, Pulse Electrodeposition, Ringer's Solution, Severe Plastic Deformation, Simulated Body Fluid, Sintering, Surface Roughness, Surface Treatment, Temporary Implantable Device, Wear, Wettability

Prices:			
	Print:	**US$ 209.00/ EUR 209.00**	Print: 978-3-0357-1861-4
	eBook Single-User:	**US$ 198.00/ EUR 198.00**	eBook: 978-3-0357-3861-2
	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*254 pages, 2021*
			https://www.scientific.net/978-3-0357-1861-4/book



Corrosion. Tube Products and Pipeline Systems

Volume in the series: 16

Aggregated Book

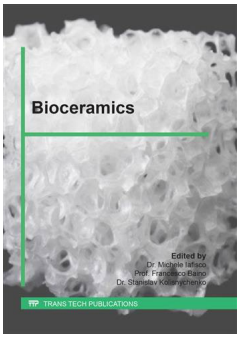
Edited by: Prof. Alin Diniţă and Dr. Stanislav Kolisnychenko

This issue, titled "Corrosion. Tube Products and Pipeline Systems”, from the topic series “Corrosion”, contains articles published by Trans Tech Publications in 2017 - 2020. The volume presents a wide range of scientific research results and engineering solutions in the field of a study of corrosion properties and corrosion behaviour of materials and structures of tube and pipelines in the oil, gas, and energy industry; development of technologies and means for the protection of materials and pipe structures against the influence of corrosive environments. We hope this collection will be useful and interesting to a broad audience of researchers and engineers in various industry fields, such as the production and transport of oil and gas, energy, chemicals.

Topics: Manufacturing, Materials Science, Mechanical Engineering, Mechanics

Keywords: Alloy, Cathodic Protection, Coatings, Conversion Coating, Corroded Pipeline, Corrosion, Corrosion Inhibitor, Corrosion Resistance, Corrosive Environment, Electrochemical Behaviour, Mechanical Properties, Pipeline System, Pitting, Potentiodynamic Polarization, Steel, Stress Corrosion Cracking, Sulfur Resistance, Surface Treatment, Tube

Prices:			
	Print:	**US$ 330.00/ EUR 330.00**	Print: 978-3-0357-1300-8
	eBook Single-User:	**US$ 198.00/ EUR 198.00**	eBook: 978-3-0357-3300-6
	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*468 pages, 2021*
			https://www.scientific.net/978-3-0357-1300-8/book



Bioceramics

Volume in the series: 15

Aggregated Book

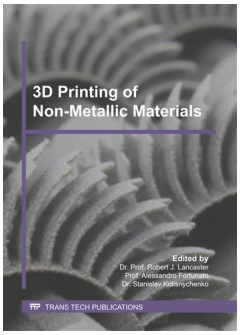
Edited by: Dr. Michele Iafisco, Prof. Francesco Baino and Dr. Stanislav Kolisnychenko

This specialised book entitled “Bioceramics” consists of papers published by Trans Tech Publications Inc. over the period of 2018 - 2019 years and introduces the reader to a wide range of research results and engineering solutions in the area of the development and use of modern bioceramic materials.

Topics: Bioscience and Medicine, Materials Science

Keywords: Antibacterial, Bioactive, Bioactive Material, Bioceramic Coating, Bioceramic Composite, Bioceramics, Bioglass, Bioinert Material, Bone Cement Composite, Bone Graft, Calcium Phosphate, Glass-Ceramic, Hydroxyapatite, Implant Material, Scaffold, Silicon Nitride, Tricalcium Phosphate, Zirconia

Prices: Print: **US$ 352.00/ EUR 352.00** Print: 978-3-0357-1585-9
eBook Single-User: **US$ 198.00/ EUR 198.00** eBook: 978-3-0357-3585-7
eBook Multi-User: **US$ 347.00/ EUR 347.00** *670 pages, 2021*
https://www.scientific.net/978-3-0357-1585-9/book



3D Printing of Non-Metallic Materials

Volume in the series: 14

Aggregated Book

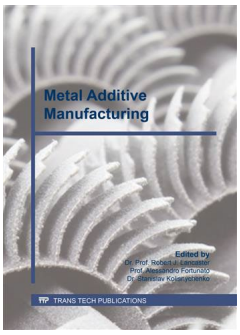
Edited by: Prof. Robert J. Lancaster, Prof. Alessandro Fortunato and Dr. Stanislav Kolisnychenko

This volume is the second part of a specialised series on “Additive Manufacturing” consisting of papers published by Trans Tech Publications Inc. during the period of 2018 – 2019. This collection of scientific papers describes a wide range of engineering approaches and solutions in the area of 3D printing technologies of non-metallic materials.

Topics: Bioscience and Medicine, Building Materials, Manufacturing, Materials Science, Mechanical Engineering, Mechanics

Keywords: 3D Bioprinting, 3D Construction Printing, 3D Printing, Additive Manufacturing, Applicability Analysis, Ceramics, Composites, Direct Digital Manufacturing (DDM), Direct Energy Deposition (DED), Equipment, Fused Deposition Modeling (FDM), Hybrid Additive Manufacturing, Laser Stereolithography, Material Extrusion, Mechanical Properties, Microstructure, Modelling, Photopolymerisation, Polymers, Post-Processing, Powder Bed Fusion (PBF), Rapid Prototyping

Prices: Print: **US$ 330.00/ EUR 330.00** Print: 978-3-0357-1504-0
eBook Single-User: **US$ 198.00/ EUR 198.00** eBook: 978-3-0357-3504-8
eBook Multi-User: **US$ 347.00/ EUR 347.00** *514 pages, 2021*
https://www.scientific.net/978-3-0357-1504-0/book



Metal Additive Manufacturing

Volume in the series: 13

Aggregated Book

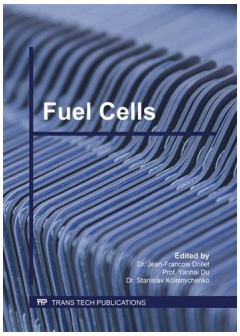
Edited by: Prof. Robert J. Lancaster, Prof. Alessandro Fortunato and Dr. Stanislav Kolisnychenko

This volume is the first part of a specialised series on “Additive Manufacturing” consisting of papers published by Trans Tech Publications Inc. during the period of 2018 – 2019. This collection of scientific papers describes a wide range of engineering approaches and solutions in the area of additive manufacturing technologies for metallic materials.

Topics: Manufacturing, Materials Science, Mechanical Engineering, Mechanics

Keywords: 3D Printing, Additive Manufacturing, Alloys, Cold Spray, Direct 3D Printing, Direct Metal Laser Sintering, Directed Energy Deposition, Electron Beam Melting, Indirect 3D Printing, Laser Metal Deposition, Mechanical Properties, Metal Matrix Composites, Microstructure, Modelling, Post-Processing, Powder, Powder Bed Fusion, Process Parameters, Rapid Prototyping, Selective Laser Cladding, Selective Laser Melting, Selective Laser Sintering, Wire Arc Additive Manufacturing

Prices: Print: **US$ 330.00/ EUR 330.00** Print: 978-3-0357-1752-5
eBook Single-User: **US$ 198.00/ EUR 198.00** eBook: 978-3-0357-3752-3
eBook Multi-User: **US$ 347.00/ EUR 347.00** *738 pages, 2020*
https://www.scientific.net/978-3-0357-1752-5/book



Fuel Cells

Volume in the series: 12

Aggregated Book

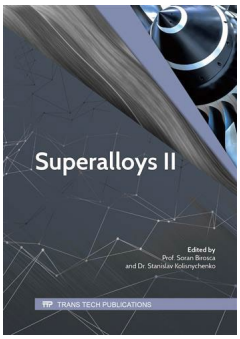
Edited by: Dr. Jean-Francois Drillet, Prof. Yanhai Du and Dr. Stanislav Kolisnychenko

The presented collection “Fuel Cells” consists of some selected proceedings papers published by Trans Tech Publications Inc. within the 2017 – 2019 period. It includes a wide range of engineering solutions and results from scientific research activities in the fuel cells area.

Topics: Manufacturing, Materials Science, Mechanical Engineering, Mechanics, Nanoscience

Keywords: Bipolar Plate, Catalysts, Cationic Membranes, Diffusion, Direct Methanol Fuel Cell (DMFC), Electrodes, Electrolyser, Ferritic Stainless Steel, Fuel Cells, Heat Exchanger, Hydrogen, Hydrogen Production, Interconnection, Joining Interface, Microbial Fuel Cell (MFC), Nafion, Nanocomposites, Polymer Electrolyte Membrane, Polymer Electrolytes, Power Supply System, Proton Exchange Membrane (PEM), Proton Exchange Membrane Fuel Cell (PEMFC), Sealing, Solid Oxide Fuel Cell (SOFC), Solid State Electrolyte, Water Splitting, Yttria Stabilized Zirconia, Zirconate Ceramics

Prices:			
	Print:	**US$ 385.00/ EUR 385.00**	Print: 978-3-0357-1548-4
	eBook Single-User:	**US$ 198.00/ EUR 198.00**	eBook: 978-3-0357-3548-2
	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*556 pages, 2020*
			https://www.scientific.net/978-3-0357-1548-4/book



Superalloys II

Volume in the series: 11

Aggregated Book

Edited by: Prof. Soran Birosca and Dr. Stanislav Kolisnychenko

The second volume of the topic series “Superalloys” contains articles published by Trans Tech Publications from 2018 up to 2019. This collection presents a wide range of scientific research results and engineering solutions in the field of alloy developments and performance, physical and mechanical properties, and processing technologies of various types of superalloys. We hope this collection will be beneficial and interesting to a broad audience of researchers and engineers from the area of materials science and engineering.

Topics: Manufacturing, Materials Science, Mechanical Engineering, Mechanics

Keywords: Additive Manufacturing, Bond Coat, Casting, Corrosion Protection, Cutting, Directionally Solidified Superalloy, Drilling, Electrical Discharge Machining, End Milling, Forging, Grain Boundaries, Hot Corrosion, Hot Extrusion, Laser Processing, Mechanical Properties, Microstructure, Modelling, Nickel-Based Superalloy, Numerical Simulation, Powder Metallurgy, Processing Technologies, Rolling , Single-Crystal Superalloy, Solidification, Superalloys, Thermal Barrier Coatings, Thermal Creep Deformation, Thermal Properties, Thermal Spraying, Vapor Deposition, Welding

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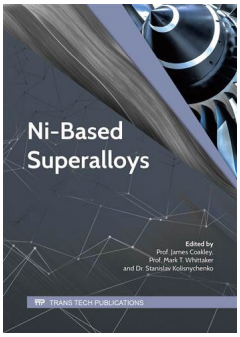

Ni-Based Superalloys

Volume in the series: 10

Aggregated Book

Edited by: Prof. James Coakley, Prof. Mark T. Whittaker and Dr. Stanislav Kolisnychenko

The first issue of the topic series “Superalloys” contains articles published by Trans Tech Publications in 2017 year. The volume entitled as "Ni-Based Superalloys" provides the readers with a wide range of scientific research results and engineering solutions in the field of development, a study of properties and processing technologies of nickel-based superalloys. We hope this collection will be useful and interesting to a broad audience of researchers and engineers from the area of machinery.

Topics: Manufacturing, Materials Science, Mechanical Engineering, Mechanics, Nanoscience

Keywords: Bond Coat, Brazing, Casting, Corrosion Protection, Cutting, Directionally Solidified Superalloy, Electrical Discharge Machining, Grain Boundaries, Hot Corrosion, Laser Processing, Mechanical Properties, Microstructure, Modelling, Nickel-Based Superalloy, Numerical Simulation, Powder Metallurgy, Processing Technologies, Rolling , Single-Crystal Superalloy, Solidification, Superalloys, Thermal Barrier Coatings, Thermal Creep Deformation, Thermal Properties, Thermal Spraying, Welding

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Membranes and Membrane Technologies II

Volume in the series: 9

Aggregated Book

Edited by: Dr. Stanislav Kolisnychenko

The topic collection “Membranes and Membrane Technologies II” of the latest scientific researches published by Trans Tech Publications from 2018 up to 2019 covers a wide range of engineering solutions in the field of properties research, development and production of various types of membranes, and their use in the technologies for the treatment of the drink water and wastewater, gas separation, etc. We hope this collection will be useful and interesting to a broad audience of researchers and engineers.

Topics: Environmental Engineering, Manufacturing, Materials Science, Mechanical Engineering, Mechanics, Nanoscience

Keywords: Composite and Hybrid Membranes, Desalination, Distillation, Filtration, Gas Separation, Inorganic Membrane, Liquid Membrane, Membrane Technology, Pervaporation, Polymeric Membrane, Reverse Osmosis, Separation, Water and Wastewater Treatment

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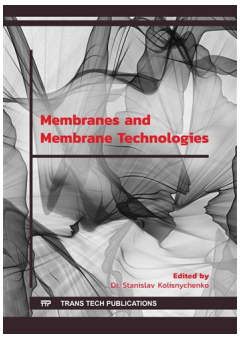

Membranes and Membrane Technologies

Volume in the series: 8

Aggregated Book

Edited by: Dr. Stanislav Kolisnychenko

The topic collection “Membranes and Membrane Technologies” consists of papers published by Trans Tech Publications Inc. from 2012 up to 2017 and it covers a wide range of engineering solutions in the field of properties research, development, and production of various types of membranes and their use in the technologies for the treatment of the drink water and wastewater, gas separation, bioindustry, etc. We hope this collection will be useful and interesting to a broad audience of researchers and engineers.

Topics: Bioscience and Medicine, Industrial Engineering, Materials Science

Keywords: Composite and Hybrid Membranes, Desalination, Distillation, Filtration, Fouling, Gas Separation, Inorganic Membrane, Liquid Membrane, Membrane Bioreactor, Membrane Technology, Pervaporation, Polymeric Membrane, Reverse Osmosis, Separation, Water and Wastewater Treatment

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	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*2002 pages, 2019*
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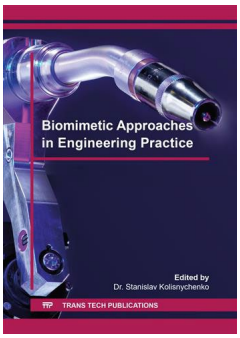

Biomimetic Approaches in Engineering Practice

Volume in the series: 7

Aggregated Book

Edited by: Dr. Stanislav Kolisnychenko

Presented for your attention the special collection “Biomimetic Approaches in Engineering Practice” consists of papers published by Trans Tech Publications Inc. from 2010 up to 2016 and covers a wide range of engineering solutions in the fields of mechanical engineering, materials science, mechatronics, robotics, and architecture, where the principles of bionics were used in the design and research process.

Topics: Bioscience and Medicine

Keywords: Architectural Bionics, Bio-Inspired Structural Materials and Elements, Bio-Inspired Surfaces, Biomimetic Synthesis, Biomimetics, Bionic Wings, Functional Materials, Machinery, Mechatronics and Robotics, Objects of Nature, Tools

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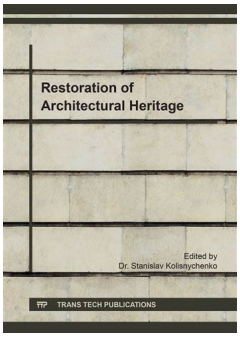

Restoration of Architectural Heritage

Volume in the series: 6

Aggregated Book

Edited by: Dr. Stanislav Kolisnychenko

The conventional and unconventional materials, modern engineering methods and technologies employed in the restoration and reconstruction of architectural heritage are the topics of the aggregated edition “Restoration of Architectural Heritage". The book contains the scientific articles selected from the materials published by Trans Tech Publications Inc. from 2010 to 2016 inclusive. We hope this collection will be useful for many readers whose activity refers to the architectural heritage preservation sphere.

Topics: Building Materials, Construction, Industrial Engineering, Materials Science, Mechanics, Transportation

Keywords: Architectural Heritage, Construction Technology, Conventional Materials, Conversion, Moisture, Reconstruction, Restoration, Rising Damp, Rural Planning, Seismic Assessment and Protection, Structural Analysis and Monitoring, Timber, Unconventional Materials, Urban Planning, Wood

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	eBook Single-User:	**US$ 198.00/ EUR 198.00**	eBook: 978-3-0357-3247-4
	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*1630 pages, 2017*
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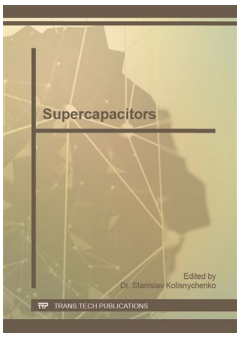

Supercapacitors

Volume in the series: 5

Aggregated Book

Edited by: Dr. Stanislav Kolisnychenko

Supercapacitors are widely used in tiny (MEMS) high-tech devices, as well as in advanced energy systems. Practical use of ultracapacitors opens up new horizons in the technology of accumulation, storing and delivery of electrical energy. Modern materials and technologies which are used to create supercapacitors are results of the advanced achievements in the field of fundamental and applied physics and materials science.

The special collection “Supercapacitors” consists of papers published by Trans Tech Publications Inc. from 2010 up to 2015 and covers a wide range of advanced achievements in the field of applied research of materials and technologies for manufacturing of supercapacitors and some of their application in different branches of engineering practice.
Chapter 1: Materials and Technologies for Creating of Supercapacitors
Chapter 2: Modeling and Measurements of Properties of Supercapacitors
Chapter 3: Some Examples of Practical Application of Supercapacitors

Topics: Materials Science, Mechanical Engineering

Keywords: Measurements, Modeling, Practical Application, Properties of Supercapacitors, Supercapacitors Creation

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	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*856 pages, 2015*
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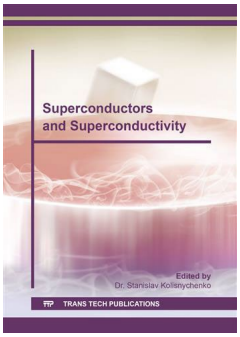

Superconductors and Superconductivity

Volume in the series: 4

Aggregated Book

Edited by: Dr. Stanislav Kolisnychenko

The phenomenon of superconductivity in materials offers great opportunities for fundamental and applied sciences. Application of superconducting material in measuring devices, medical diagnostics, in space and energy industries and transport, is only a short list of possible use of the phenomenon of superconductivity in everyday human activity.

The special collection “Superconductors and Superconductivity” consists of papers published by Trans Tech Publications Inc. from 2010 up to 2015 and covers a wide range of advanced achievements in the field of applied research and applied application of superconductors in different branches of engineering.
Compiled scientific papers are presented in two chapters:
Chapter 1: Superconductors: Properties and Production Technologies
Chapter 2: Practice of Using Superconductors and Superconductivity

Topics: Materials Science, Mechanical Engineering

Keywords: Critical Temperature, High Temperature Superconductor, Microstructure, Production Technologies, Properties, Solid-State Reaction, Superconductor Characterization Techniques

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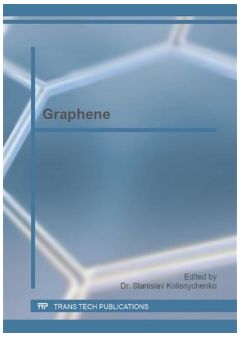

Graphene

Volume in the series: 3

Aggregated Book

Edited by: Dr. Stanislav Kolisnychenko

As a direct development of nanotechnologies, graphene is the first known crystal that has genuine two-dimensional structure (2D). The diversity of properties of graphene has predetermined a wide range of applications of its use in many areas of scientific and practical activities.

The collection “Graphene” consists of papers published by Trans Tech Publications Inc. from 2010 up to 2015 and covers the technology of graphene formation, as well as the application of this unique material to a wide range of technological developments.
The papers are presented in nine chapters:
Chapter 1: Technologies of Graphene Formation;
Chapter 2: Research and Analysis Properties and Quality of Graphene;
Chapter 3: Composites and Polymers Based on Graphene;
Chapter 4: Research and Development of Films, Fibers, Surface and Coating with Use of Graphene;
Chapter 5: Application of Graphene in Photocatalytic Processes and Environmental Engineering;
Chapter 6: Graphene in Biomedical Engineering;
Chapter 7: Using Graphene in Electronics and Photovoltaics;
Chapter 8: Application of Graphene for Sensors and NEMS;
Chapter 9: Using of Graphene in Energy Storage, Fuel Cells and Supercapacitors.

Topics: Bioscience and Medicine, Environmental Engineering, Materials Science, Mechanical Engineering, Nanoscience

Keywords: Biomedical Engineering, Energy Storage, Fibers, Films, Fuel Cells, Graphene Based Polymers, Nanotechnologies, Photocatalytic Processes, Properties, Quality of Graphene, Supercapacitors

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	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*3122 pages, 2015*

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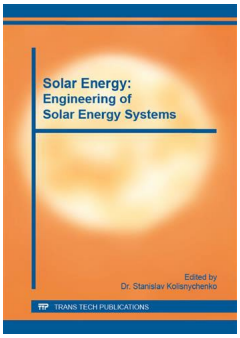

Solar Energy: Engineering of Solar Energy Systems

Volume in the series: 2

Aggregated Book

Edited by: Dr. Stanislav Kolisnychenko

The main advantages of solar energy are inexhaustibility and wide accessibility, as well as the relative environmental friendliness of its transformation into other forms of energy.

The widespread use of solar energy requires the creation of functionally complete systems which convert solar energy into an element of a given technological process.

The collection “Engineering of Solar Energy Systems” consists of papers published by Trans Tech Publications Inc. from 2010 to 2014 inclusive and covers a wide range of advanced achievements in the field of creating and designing systems for technological use of solar energy.

The compiled scientific papers are presented in eight chapters:
Chapter 1: Solar Systems for Heating, Cooling and Ventilation
Chapter 2: Solar Energy in Environmental Treatment and Water Desalination
Chapter 3: Solar Hydrogen Producti
Chapter 4: Systems for Electricity Supply Based on Solar Energy
Chapter 5: Design of Components and Equipment for Solar Systems
Chapter 6: Mechatronics, Control and Automation in Solar Energetics
Chapter 7: Integration of Solar Technologies in the Architecture of Buildings
Chapter 8: Engineering Management in Solar Energetics,
which cover many aspects of scientific and engineering activities.

Topics: Construction, Industrial Engineering, Materials Science, Mechanical Engineering

Keywords: Automation in Solar Energetics, Control, Cooling, Solar Energy, Solar Hydrogen Production, Solar Systems for Heating, System for Electricity Supply

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	Print:	**US$ 836.00/ EUR 836.00**	Print: 978-3-03835-901-2
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	eBook Multi-User:	**US$ 347.00/ EUR 347.00**	*4628 pages, 2015*

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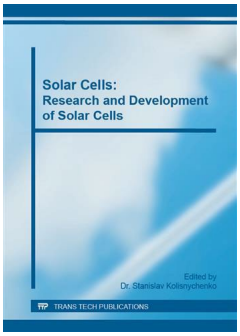

Solar Cells: Research and Development of Solar Cells

Volume in the series: 1

Aggregated Book

Edited by: Dr. Stanislav Kolisnychenko

Solar energy possesses enormous potential as a source of affordable and inexhaustible energy. Solar energy is utilized with the help of various technologies and, in particular, photovoltaic technology, based on photovoltaic elements which provide direct conversion of solar energy into electricity.

The compilation “Research and Development of Solar Cells” covers papers concerning various aspects of the design, research and manufacture of photovoltaic cells, as they have been selected from the library of Trans Tech Publications Inc. from 2010 to 2014 inclusive.

All materials are presented in five chapters:
Chapter 1: Silicon Based Solar Cells
Chapter 2: Dye-Sensitized Cells
Chapter 3: Other Types of Solar Cells
Chapter 4: Technology of Quantum Dots
Chapter 5: Engineering Support in Manufacturing of Solar Cells, which display a wide variety of challenges and achievements in the field of photovoltaic cells engineering.

Topics: Materials Science, Mechanical Engineering

Keywords: Dye-Sensitized Cells, Electricity, Manufacturing of Solar Cells, Photovoltaic Technology, Silicon Based Solar Cells, Solar Energy Possesses, Technology of Quantum Dots

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