CEMENT AND CONCRETE RESEARCH

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DESCRIPTION

The aim of Cement and Concrete Research is to publish the best research on cement, cement composites, concrete and other allied materials that incorporate cement. In doing so, the journal will present: the results of research on the properties and performance of cement and concrete; novel experimental techniques; the latest analytical and modelling methods; the examination and the diagnosis of real cement and concrete structures; and the potential for improved materials. The fields which the journal aims to cover are:

- **Processing**: Cement manufacture, mixing and rheology, admixtures and hydration. While the majority of articles will be concerned with Portland cements, we encourage articles on other cement systems, such as calcium aluminate.
- **Structural** and **Microstructural Characterisation** of the unhydrated components and of hydrated systems including: the chemistry, crystal structure, pore structure of cement and concrete, characterisation techniques, and structural and microstructural modelling.
- The **properties** of cement and concrete, including: fundamental physical properties; transport, mechanical and other properties, the processes of degradation of cement and concrete; and the modelling of properties, both as a means of predicting short and long performance, and as a means of relating a material's structure to its properties.
- **Applications** for cement and concrete, including: concrete technology, fibre reinforcement, waste management, and novel concretes.

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INTRODUCTION
The aim of *Cement and Concrete Research* is to publish the best research on cement, cement composites, concrete and other allied materials that incorporate cement. In doing so, the journal will present: the results of research on the properties and performance of cement and concrete; novel experimental techniques; the latest analytical and modelling methods; the examination and the diagnosis of real cement and concrete structures; and the potential for improved materials. The fields which the journal aims to cover are:

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- **Applications for cement and concrete**, including: concrete technology, fibre reinforcement, waste management, and novel concretes.

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List of keywords
A. PROCESSING
Acceleration
Bleeding
Calorimetry
Curing
Dispersion
Drying
Fineness
Fresh Concrete
Grinding
Humidity
Hydration
Kinetics
Microwave Processing
Mixture Proportioning
pH
Reaction
Retardation
Rheology
Temperature
Thermal Treatment
Vibration
Workability

B. STRUCTURE, MICROSTRUCTURE, CHARACTERIZATION
Amorphous Material
Backscattered Electron Imaging
Calcium-Silicate-Hydrate (C-S-H)
Characterization
Crack Detection
Crystal Size
Crystal Structure
EDX
Glass
Hydration Products
Image Analysis
Interfacial Transition Zone
Mercury Porosimetry
Microcracking
Microstructure
Particle Size Distribution
Petrography
Pore Size Distribution
Pore Solution
SEM
Small-Angle X-Ray Scattering
Spectroscopy
Surface Area
Surface Layer
TEM
Thermal Analysis
Thermodynamic Calculations
X-Ray Diffraction

C. PROPERTIES
Adsorption
Aging
Alkali-Aggregate Reaction
Bending Strength
Bond Strength
Carbonation
Compressive Strength
Corrosion
Creep
Cycles
Degradation
Delayed Ettringite Formation (DEF)
Diffusion
Durability
Elastic Moduli
Electrical Properties
Electrochemical Properties
Expansion
Fatigue
Finite Element Analysis
Fracture Toughness
Freezing and Thawing
Long-Term Performance
Magnetic Properties
Mechanical Properties
Micromechanics
Permeability
Physical Properties
Pull-Out Strength
Shrinkage
Stability
Strain Effect
Sulfate Attack
Tensile Properties
Transport Properties

D. COMPOSITION
Admixture
Aggregate
Alkali Activated Cement
Alkalis
BaO
Blended Cement
CdO
Ca3Al2O6
Calcium Aluminate Cement
Calcium Aluminoferrite
CaO
Ca2SiO4
Ca(OH)2
Ca3SiO5
3CaO?3Al2O3?CaSO4
CaCO3
Cement
Cement Paste
Chemically Bonded Ceramics
Chloride
Chromium
Clinker
Cobalt
Ettringite
Filler
Fly Ash
Fluoride
Fluxes
Granulated Blast-Furnace Slag
Heavy Metals
High-Range WaterReducers
Hydrogarnet
Lithium Compounds
Metakaolin
MgO
Mineralizers
Monosulfate
Nitrate
Organic Acids
Organic Materials
Polymers
Portland Cement
KOH
Pozzolan
Reinforcement
Silica Fume
Sulfate
Sulfate Resistant Cements
Sulfoaluminate
Toxic Metal
Zinc

E. APPLICATIONS, SPECIAL TREATMENT
Cement Manufacture
Composite
Concrete
Fiber Reinforcement
High-Performance Concrete
Modeling
Mortar
Oil Well Cement
Precast Units
Radioactive Waste
Refractory Cement