Engineering

April 2019

High Performance Structures: Building Structures and Materials

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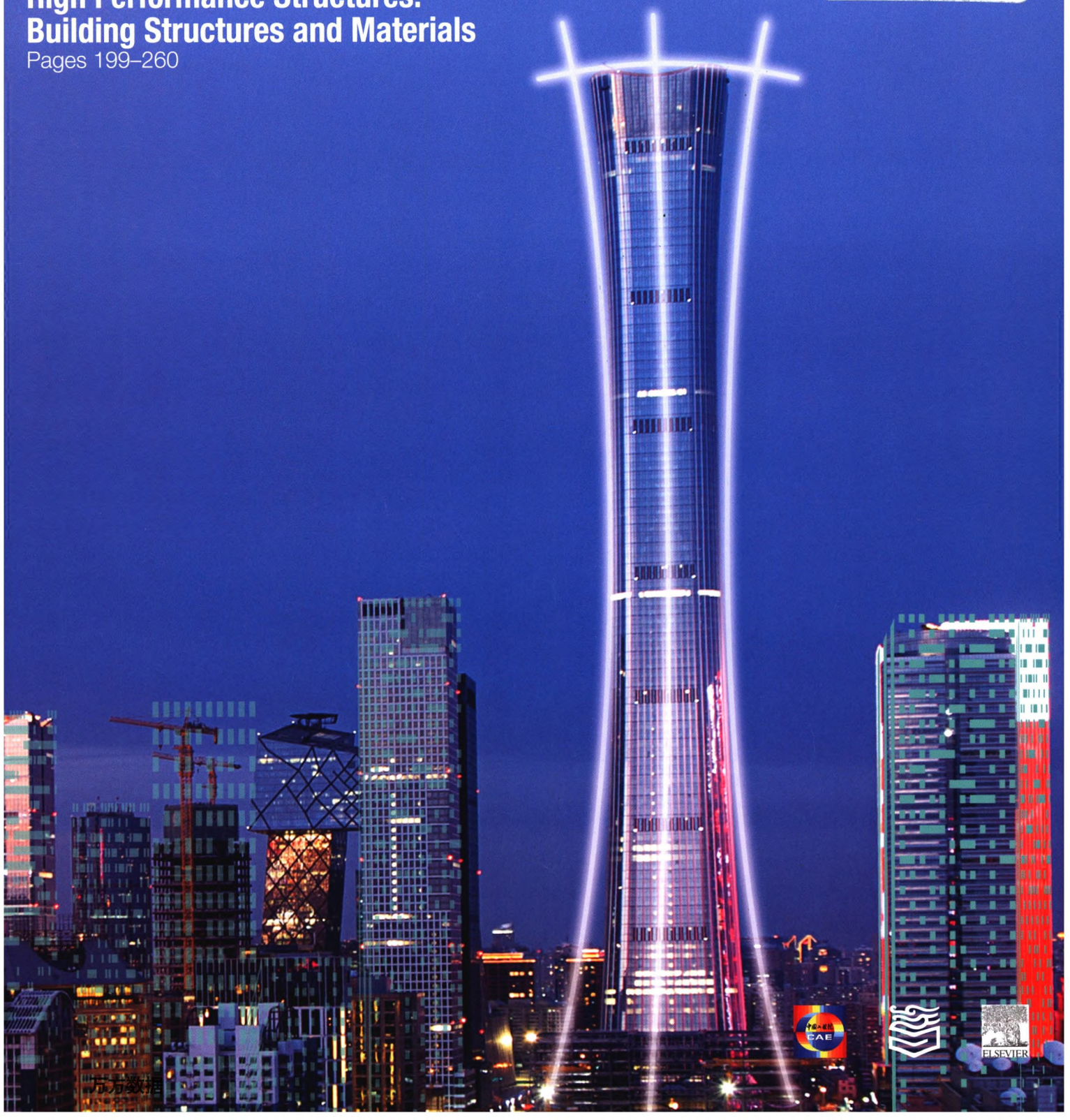

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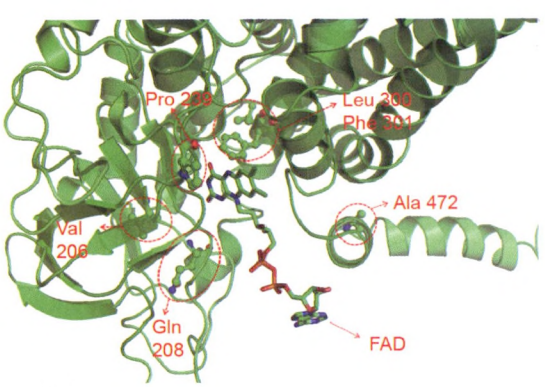

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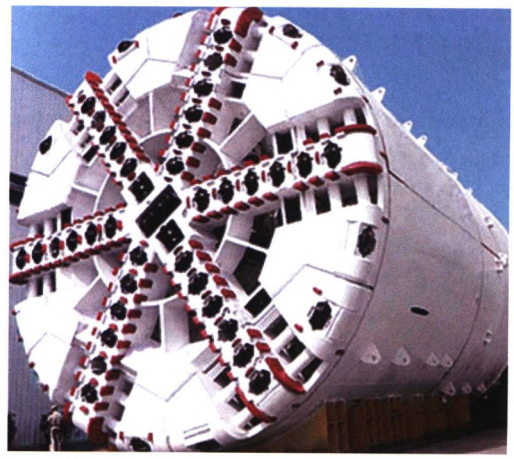

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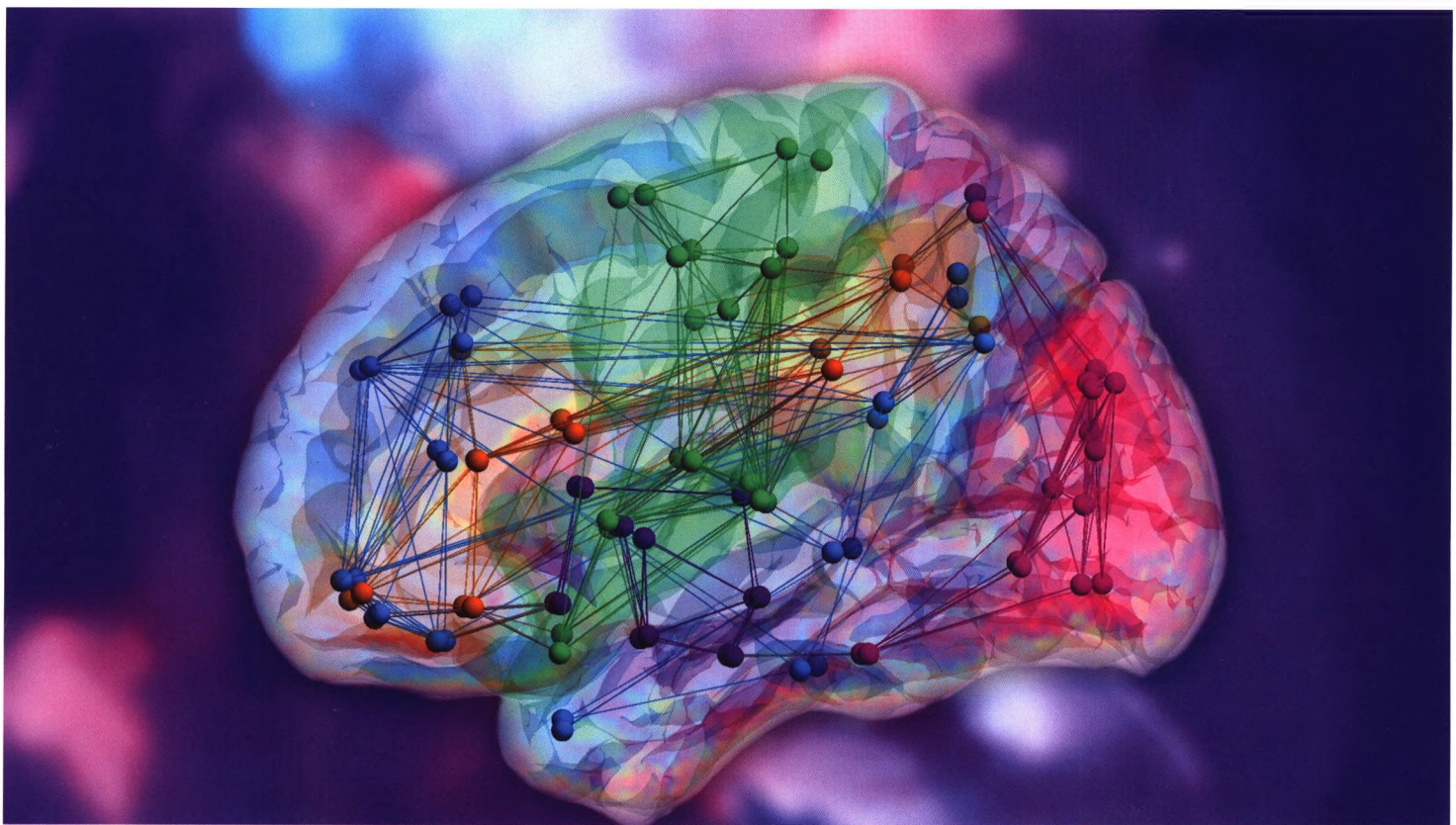
ON THE COVER

Civil engineering infrastructure construction plays an important role in the economic and social development of all countries in the world. However, there are still many urgent problems need to be solved in terms of energy consumption, environmental protection, service life, safety and reliability, and disaster resistance. The development of high-performance structures characterized by high levels of safety, durability, disaster resistance, and environmental friendliness, and low maintenance requirements is of great significance for the realization of green, industrialized and sustainable development of civil engineering. High-performance materials, high-performance structural systems, advanced analytical theory, design methods, and structural health monitoring techniques are the future research directions.

Engineering Science and Technology Create a Better Future



The brain forms a network structure that balances information-processing efficiency with cost. An example of the brain's modular architecture is illustrated in this visually appealing color-coded figure, which shows several well-known functional subareas. Such a network structure would be altered by various mental states, including mental fatigue—an everyday problem in contemporary society. Network studies of mental fatigue may enrich our understanding of fatigue mechanisms and contribute to reducing fatigue-related human error in real-world situations.

Engineering is intended to provide a high-level platform where academic achievements of great importance in engineering science and technology can be disseminated and shared.

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