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Marcus Frings

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Biotechnology and the built environment

Building Science: Synthetic Biology and emerging technologies in architectural research
Martyn Dade-Robertson

Cities as biological computers
Claudia Pasquero and Marco Poletto propose a conceptual model and a bio-computational design method to articulate the world’s Urbansphere, suggesting new terms for its co-evolution with the Biosphere.

(Experimenting with) Living Architecture: a practice perspective
Emma Flynn shows that as a tree responds to and moderates its surrounding environment, nature can become a key inspiration in developing mechanisms to reduce the impact of climate change and resource depletion.

Design scrying: an alternative aesthetics for synthetic biology
Rachel Armstrong investigates both ‘design scrying’ - the generation of images through interface distortions that occur at reflective surfaces and ‘dark gels’ - used as an image generating system for an alternative aesthetics of life.

The unit of survival
Andrew Ballantyne considers how, if we draw the boundaries of an entity in the wrong place then we can think it is doing well, when it is heading for disaster.

Machines for living in: connections and contrasts between designed architecture and the development of living forms
Jamie Davies reflects on how buildings are designed ‘top-down’ and use external expertise and repair, whereas natural bodies emerge from ‘bottom-up’ processes at a hierarchy of scales, and build and repair themselves by adaptive self-organisation.

Bioreceptive design: a novel approach to bio-digital materiality
Marcos Cruz and Richard Beckett explore the emergence of bioreceptive design, a new material phenomenon which is changing the environmental and biologically-integrated performativity of architecture.

The laboratory life of a designer at the intersection with algal biotechnology
Marin Sawa offers an empirical account of the scientific research laboratory as a place to work for a designer in biodesign practice.

SolarLeaf: The world’s first bioreactive façade
Jan Wurm and Martin Pauli discuss the technology, first monitoring results and future potentials of the world’s first bioreactive façade, SolarLeaf, which generates biomass and heat in a closed loop system.

Architecture’s Pretexts: Spaces of Translation
Reviewed by Joseph Clarke

‘Architecture and Macaroni’: Digesting knowledge through ingesting food
Lisa Hsieh

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