

## Cite this article

(2021)

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*Proceedings of the Institution of Civil Engineers – Engineering Sustainability* **174(1)**: 53,  
<https://doi.org/10.1680/jensu.2021.174.1.53>

## Announcement

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## Award-winning papers in 2019

Papers published in *Engineering Sustainability* are eligible for awards from the Institution of Civil Engineers. Papers from any of the ICE journals can be nominated for several awards. In addition, each journal has awards dedicated to their specific subject area.

On Thursday 4 June 2020, awards were announced for the following papers published in *Engineering Sustainability* in 2019. The editorial panel nominated their best papers and an awards committee chaired by Tim Broyd allocated the awards.

### Richard Trevithick Prize

The Richard Trevithick Prize, presented for the best paper published in *Engineering Sustainability*, was awarded to Campbell (2019).

### Abstract

Mass timber products such as cross-laminated timber have increased in popularity in the past decades. Their relative novelty, however, means that there is little actual experience of what happens to the products at end of life. Despite promoting the use of natural capital, biotic materials are not often covered in discussions on construction in the circular economy. Equally, it is unclear what model is most appropriate for construction to incorporate circular thinking. Different actions for circularity are reviewed against sustainable construction ambitions, and a simple model with basic circular actions is proposed as a means to review mass timber construction. Suggestions for how to adapt mass timber systems to include circular methods are presented, including design for combined manufacture and assembly and disassembly, the identification of future markets, improving the durability of timber buildings and acknowledging the wider system value of forestry.

### Charles Manby Prize

The Charles Manby Prize, presented to the best paper that covers information and communications technology/geographic information systems/building

information modelling in its broadest sense, was awarded to Bottaccioli *et al.* (2019).

### Abstract

For planning and development and in real-time operation of smart grids, it is important to evaluate the impacts of photovoltaic (PV) distributed generation. This paper presents an integrated platform, constituted of two main components: a PV simulator and a real-time distribution network simulator. The first, designed and developed following the microservice approach and providing Representational State Transfer web services, simulates real-sky solar radiation on rooftops and estimates the PV energy production. The second, based on a digital real-time power systems simulator, simulates the behaviour of the electricity network under the simulated generation scenarios. The platform is tested on a case study based on real data for a district of the city of Turin, Italy. In the results, the authors show possible applications of the platform for power flow forecasting during real-time operation and for detecting possible voltage and transformers' capacity problems during planning due to high penetration of renewable energy sources. In particular, the results show that the case study distribution network, in the actual configuration, is not ready to accommodate all the generation capacity that can be installed, as, in certain hours of the day and on certain days of the year, the capacity of some transformers is exceeded.

### REFERENCES

- Bottaccioli L, Estebarsari A, Patti E, Pons E and Acquaviva A (2019) Planning and real-time management of smart grids with high PV penetration in Italy. *Proceedings of the Institution of Civil Engineers – Engineering Sustainability* **172(6)**: 272–282, <https://doi.org/10.1680/jensu.17.00066>.
- Campbell A (2019) Mass timber in the circular economy: paradigm in practice? *Proceedings of the Institution of Civil Engineers – Engineering Sustainability* **172(3)**: 141–152, <https://doi.org/10.1680/jensu.17.00069>.