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CISBAT 2019 International Conference on Climate Resilient Cities – Energy Efficiency & Renewables in the Digital Era

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CISBAT 2019 International Conference
Climate Resilient Cities – Energy Efficiency & Renewables in the Digital Era

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Preface to the CISBAT 2019 Journal of Physics: Conference Series special issue

CISBAT 2019 took place from 4 to 6 September 2019 at the Ecole Polytechnique Fédérale de Lausanne (EPFL) in Switzerland under the heading "Climate Resilient Buildings - Energy Efficiency & Renewables in the Digital Era".

Focused on energy efficiency and the use of renewables in buildings and cities, CISBAT bi-annually offers a dynamic platform for scientific exchange in fields ranging from nanostructured materials for renewable energy applications in buildings to urban energy systems.

The scientific program of this 15th edition included the following topics:

- Smart materials for building envelopes (micro- and nanotechnologies)
- Climate resilient buildings (ecobuildings, retrofit, performance gap)
- Daylighting & electric lighting (human centric & green lighting)
- Human & building interaction (user centered systems, behavioral aspects)
- Building simulation & ICT (design, optimisation, analysis) – IBPSA special session
- Renewable energy in the built environment (electricity, heating and cooling)
- Smart buildings & districts (predictive & adaptive control)
- Data driven methods for the built environment (regional planning, big data and machine learning)
- Urban climate modelling (building energy demand, outdoor comfort, urban planning)
- Distributed energy systems (urban energy hubs)

Regional and urban planning took center stage as scientists from different fields reported the use of advanced and data driven simulation methods to optimize the deployment of renewables and improve

the energy efficiency of buildings. The wide range of subjects encouraged interdisciplinary exchange and workshops connected scientists with industry and public services.

The conference was hosted by the Solar Energy & Building Physics Laboratory of the Ecole Polytechnique Fédérale de Lausanne (EPFL).