Table of contents

Volume 290

2019

◆ Previous issue

Next issue ▶

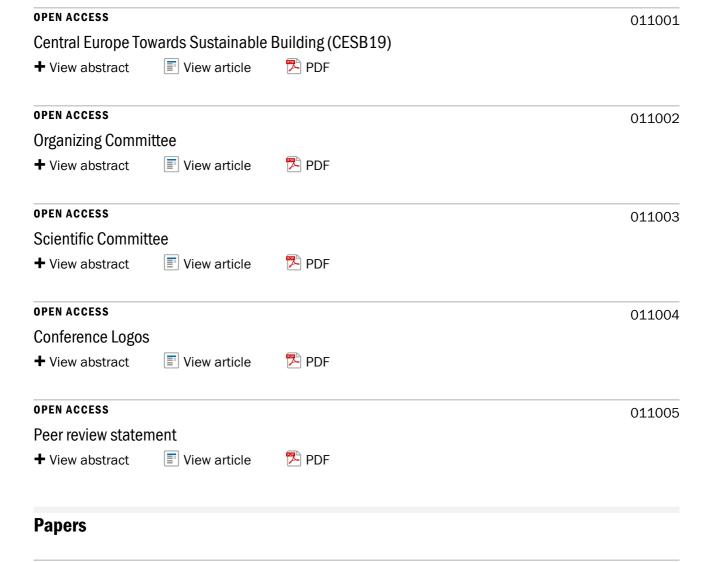
Central Europe towards Sustainable Building (CESB19) 2-4 July 2019, Prague, Czech Republic

View all abstracts

Accepted papers received: 23 May 2019

Published online: 21 June 2019

Preface



Keynotes

+ View abstract

22.7.2019

OPEN ACCESS

+ View abstract

OPEN ACCESS

Properties

+ View abstract

+ View abstract

OPEN ACCESS

T Lützkendorf **+** View abstract

Materials

OPEN ACCESS

OPEN ACCESS

R Lorch

OPEN ACCESS

The Biophilic Power and Environmental Urgency of Earthen Construction

L Ben-Alon, V Loftness, K A Harries and E C Hameen

OPEN ACCESS 012007

Alternative Sands as Substitute for Natural Sand for the Construction Sector

L Boehme and A Depoortere

View article 🏞 PDF

OPEN ACCESS 012008

Decisive Use of Building Materials Based on Hygrothermal Analysis

M Brauner, A Ghaffarianhoseini, N Naismith and J Tookey

Choice of Sustainable and Durable Concrete Structure Using LCA

A Horáková, I Broukalová and A Kohoutková

OPEN ACCESS

012016

IOP Conference Series: Earth and Environmental Science, Volume 290, 2019 - IOPscience

A Nowotna, B Pietruszka and P Lisowski

22.7.2019

OPEN ACCESS 012033 External Wooden Constructions - Protection by Titanium Dioxide P Svora, P Kuklík, M Šrámová Slušná, S Svorová Pawelkowicz and P Ecorchard 🄁 PDF ♣ View abstract View article **OPEN ACCESS** 012034 Utilization of Fermentation Residues in the Production of a Brick Block J Šál and P Nováková View article PDF **+** View abstract **OPEN ACCESS** 012035 Circular Housing Retrofit Strategies and Solutions: Towards Modular, Mass-Customised and 'Cyclable' Retrofit Products A van Stijn and V H Gruis View article PDF **◆** View abstract **OPEN ACCESS** 012036 Effect of Glass Fibres on the Mechanical Behaviour of Concrete with Recycled Concrete Aggregates (RCAs) B Vandevyvere, Z Sierens, E Verstrynge, L Vandewalle and J Li **+** View abstract ■ View article 🄁 PDF **OPEN ACCESS** 012037 Innovative Thermal Insulation Products for a Circular Economy V Vasile, C Petcu, V Meiţă and M C Zaharia View article PDF **+** View abstract **OPEN ACCESS** 012038 Optimization of RC Structures with Regard to Amount of Embodied CO₂ Emissions M Ženíšek and P Hájek View article PDF **+** View abstract Assesment and optimization tools **OPEN ACCESS** 012039 Development of LCAbyg: A National Life Cycle Assessment Tool for Buildings in Denmark H Birgisdottir and F N Rasmussen 🄼 PDF **+** View abstract ■ View article **OPEN ACCESS** 012040 Implementation of the DGNB Framework for Carbon Neutral Buildings and Sites

https://iopscience.iop.org/issue/1755-1315/290/1

A Braune, D Geiselmann, S Oehler and C Ruiz Durán

OPEN ACCESS 012049 Concrete, Sustainability and Limit States K Hrabová, B Teplý and P Hájek ♣ View abstract View article PDF **OPEN ACCESS** 012050 Smart BIM-AM Journey to Green Buildings CK Lee, HYS Chan, CYC Poon, KMG Yip and PHF Yuen View article PDF ♣ View abstract **OPEN ACCESS** 012051 Financing Renewables while Implementing Energy Efficiency Measures through Consumer Stock Ownership Plans (CSOPs) - The H2020 Project SCORE J Lowitzsch View article PDF **+** View abstract **OPEN ACCESS** 012052 Application of "Element"-Method in Sustainability Assessment T Lützkendorf View article PDF ♣ View abstract **OPEN ACCESS** 012053 The Theory-Practice Gap in Value Management – A Case Study in Sri Lankan Construction Industry M M M P Mahinkanda and Y G Sandanayake View article PDF **+** View abstract **OPEN ACCESS** 012054 Multi-Criteria Decision Making in the Social Sustainability Assessment of High-Rise Residential Buildings B Maleki, M d M Casanovas Rubio, S M A Hosseini and A de la Fuente Antequera ■ View article 🄁 PDF **OPEN ACCESS** 012055 Significant Sustainable Facilities Management (SFM) Practices in the Health Care (HC) Sector FS Nazeer, S Gunatilake and T Ramachandra View article PDF **OPEN ACCESS** 012056 Multiscalarity in International Sustainable Assessment Systems: A Qualitative

Comparison of LEED, CASBEE, BREEAM, DGNB and ESTIDAMA on Building, Neighbourhood and

https://iopscience.iop.org/issue/1755-1315/290/1

| City | / Scal | le |
|------|--------|----|
| | | |

M Orova and Reith

+ View abstract
 ■ View article
 ▶ PDF

OPEN ACCESS 012057

A Life-Cycle Approach to Building Energy Retrofitting: Bio-Based Technologies for Sustainable Urban Regeneration

🄼 PDF

F Pittau, G Habert and G Iannaccone

+ View abstract ■ View article

OPEN ACCESS 012058

Possibilities of Using Modern Technologies and Creation of the Current Project Documentation Leading to the Optimal Management of the Building for Sustainable Development

K Prušková, M Dědič and J Kaiser

+ View abstract
 ■ View article
 ▶ PDF

OPEN ACCESS 012059

Experiences from the Implementation of the Assessment System for Sustainable Building (BNB) in Germany

A Rietz, N Kerz and M Welsch

+ View abstract
 Image: View article
 Image: PDF

OPEN ACCESS 012060

Life Cycle Costing of Public Construction Projects

R Schneiderova Heralova

OPEN ACCESS 012061

Linking Together Independent Sustainable Building Development Plans

M Sůra

+ View abstract
 I View article
 I PDF

OPEN ACCESS 012062

The Influence of Energy Performance Certification the Market Value of Residential Buildings

L C Tagliabue, F Re Cecconi, N Moretti and M C Dejaco

+ View abstract
 ■ View article
 ▶ PDF

OPEN ACCESS 012063

Strategies for Simultaneous Embodied Energy and Operational Energy Reductions in Buildings during the Design Stage

G A Tennakoon, A S Waidyasekara, B J Ekanayake and S F Nazeer

◆ View abstract

▼ View article

🔁 PDF

OPEN ACCESS 012064 Quality Label in Buildings and Construction – a Green Label Supporting the Sustainability of Buildings in Slovenia M Tomšič, N Jejčič and M Š Zavrl **+** View abstract View article 🄼 PDF **OPEN ACCESS** 012065 Cost Estimation in BIM for Transportation Constructions in Czech Republic S Vitasek and J Zak View article 🄼 PDF **OPEN ACCESS** 012066 Changes of the Operating Costs during the Life Cycle in Existing Housing Stock D Vytlačil ■ View article 🔁 PDF **+** View abstract **OPEN ACCESS** 012067 Life Cycle Assessment Of Cooling and Heating System Based on Peltier Module A Żelazna and J Gołcbiowska View article PDF **+** View abstract High-performance building systems and components **OPEN ACCESS** 012068 Building Envelope Thermal Upgrade for School Buildings in Jordan H H Ali and R Al-Hashlamun View article 🔼 PDF OPEN ACCESS 012069 Flat Roofs Defects - Norwegian Building Sector Perspectives E Andenæs, A Engebø, T Kvande, R A Bohne and J Lohne View article PDF **+** View abstract **OPEN ACCESS** 012070 Two-Stage System for Utilization of Renewable Solar Energy in Modern Building Facade Technology B Bielek, M Krajčík, P Buday and M Macák ■ View article 🄁 PDF **+** View abstract **OPEN ACCESS** 012071 The Environmental Performance of a Remote-Region Health Clinic Building, Australia,

Based on Instrumental Monitoring

OPEN ACCESS

Implications of Model Complexity for the Simulated Thermal Behavior of a Casement Window

S N Khosravi, O Šikula, U Pont and A Mahdavi

+ View abstract

OPEN ACCESS

Air Handling Unit with Heat Pump

M Kny, V Mazanec, D Adamovský and J Včelák

🄁 PDF View article **+** View abstract

OPEN ACCESS 012079

Optimization of Distance Rings in Panel Radiators

22.7.2019

S Burroughs

OPEN ACCESS

+ View abstract

OPEN ACCESS

OPEN ACCESS

OPEN ACCESS

OPEN ACCESS

T Legner and J Bašta **■** View article ♣ View abstract **OPEN ACCESS** 012080 Experimental Assessment of the Façade-Integrated Thermoelectric Air-Conditioning Unit towards Development of the Autonomous Curtain Walling Module T Matuška, V Zmrhal, V Zavřel and P Slanina PDF **+** View abstract **■** View article **OPEN ACCESS** 012081 Performance of Unglazed Photovoltaic-Thermal Collectors for Cooling Purpose T Matuška, N Pokorný and V Shemelin View article PDF ♣ View abstract **OPEN ACCESS** 012082 Influence of User Electricity Load Profile and Calculation Time Step on the Photovoltaic System Balance J Novotny and T Matuska 🔁 PDF ♣ View abstract ■ View article **OPEN ACCESS** 012083 Environmental Benefits of Timber-Concrete Prefabricated Construction System for Apartment Buildings – a Simplified Comparative LCA Study P Ryklová, Š Mančík and A Lupíšek **+** View abstract View article PDF **OPEN ACCESS** 012084 Attractiveness of Using Photovoltaic Panels in a Building Connected to a Mainly Renewable Electricity Grid MR MSaade, MG da Silva and VGomes ■ View article 🔼 PDF **+** View abstract **OPEN ACCESS** 012085 Potential Benefits of PV-Shading System in Office Buildings and Semi-Continental Climate Conditions

N Skandalos, J Tywoniak and K Stanek

OPEN ACCESS 012086

Effects of Early Structural Changes of Engineered Soils on Green Roof and Bioretention Performance

M Snehota, J Hanzlikova, P Heckova, J Sacha, V Jelinkova and A Kaestner

+ View abstract■ View article▶ PDF

22.7.2019

IOP Conference Series: Earth and Environmental Science, Volume 290, 2019 - IOPscience **OPEN ACCESS** 012087 Environmental Assessment of Latent Heat Storage Technology K Struhala, M Ostrý and S Bantová View article 🄼 PDF + View abstract **OPEN ACCESS** 012088 Reducing Energy Consumption for Air-Conditioning by Commissioning and Optimized System Operation J Šimek, M Lain and J L M Hensen View article **+** View abstract 🄼 PDF **OPEN ACCESS** 012089 Simple Free Use Simulation Software for Buildings with Photovoltaic System and Battery P Wolf and S Kichou View article PDF **OPEN ACCESS** 012090 Determination of Moisture Buffering Capabilities of Common Furniture Materials J Zemitis and A Borodinecs View article 🄼 PDF + View abstract **Energy OPEN ACCESS** 012091 Waste Water Recovery System with Heat Pump for Hot Water Preparation R Červín and T Matuška View article PDF **+** View abstract **OPEN ACCESS** 012092 I-ZEB: Design and Development of a ZEB Test-Laboratory for an Integrated Evaluation of **Building Technologies** L Danza, L Belussi, B Barozzi, A Bellazzi, A Devitofrancesco, M Depalma, G Guazzi, I Meroni, C Maffè, M Ghellere, F Salamone, F Scamoni and Ch Scrosati View article PDF + View abstract **OPEN ACCESS** 012093 DataRen, a Territorial Energy Demand Modelling Tool F de Oliveira, S Schneider and P Hollmuller 🔁 PDF ■ View article **+** View abstract **OPEN ACCESS**

012094

A Revolutionary Study Commons and University Library Extension, The Chinese University of Hong Kong

OPEN ACCESS 012097

The Assessment of Construction Details in Terms of 3D Thermal Fields and the Impact on Building Design

M Kalousek and M Novák

22.7.2019

S M Fung and T Yuen

♣ View abstract

+ View abstract

+ View abstract

OPEN ACCESS

OPEN ACCESS

View article PDF **+** View abstract

OPEN ACCESS 012098

Renewable Energy Supply for Remote Station Located in Antarctica – Simulations Based on Real Measured Data

S Kichou, P Wolf and P Kapler

View article PDF **+** View abstract

OPEN ACCESS 012099

Retro-Commissioning – Effective Energy Conservation Initiatives in Existing Buildings

K W Kong, K W Lam, C Chan and P Sat

View article **+** View abstract PDF

OPEN ACCESS 012100

Solar Aperture of a Building Enclosure: The Case Study of a Well-Insulated Family House in Semi-Continental Climate

P Kopecký and K Sojková

🔁 PDF **+** View abstract ■ View article

OPEN ACCESS 012101

Carbon Dioxide Emissions from Operation of Czech Building Stock and Potential for Their Reduction

A Lupíšek

View article 🄼 PDF **+** View abstract

OPEN ACCESS 012102

14/23

Identification of Characteristic Heat Load Profiles of Different Usage Units in Non-Residential

| Buildings | cteristic rieat t | Load Fromes of Different Osage Offits III Non-Neside | iiuai |
|---|-------------------|---|--------|
| C Matschi, G Vogt and I N | Nemeth | | |
| → View abstract | View article | PDF | |
| OPEN ACCESS | | | 012103 |
| Mapping of Cities Was | tewater Heatin | ng/Cooling Capacity | |
| N Meeten | | | |
| → View abstract | View article | PDF | |
| OPEN ACCESS | | | 012104 |
| Experimental Verificati | on of Indirect A | Adiabatic Cooling by Ventilation Air | |
| O Nehasil and D Adamov | /ský | | |
| + View abstract ■ | View article | PDF | |
| OPEN ACCESS | | | 012105 |
| The Impacts of the External Consumption of the Bu | | ructures and Orientation on the Energy | |
| T Odineca, A Borodinecs, | , A Korjakins an | d D Zajecs | |
| + View abstract ■ | View article | PDF | |
| OPEN ACCESS | | | 012106 |
| | | s and Parametric Design on the Thermal Mediterranean Climate | |
| N R M Sakiyama, S B M I | Hejazi, C C de O | lliveira, J Frick and H Garrecht | |
| → View abstract | View article | PDF | |
| OPEN ACCESS | | | 012107 |
| A Heat Demand Load (| Curve Model of | f the Swiss National Territory | |
| S Schneider, P Hollmulle | r, J Chambers a | nd M Patel | |
| → View abstract | View article | PDF | |
| OPEN ACCESS | | | 012108 |
| A Zero Energy House fo | or and by Frank | k Gehry | |
| M Schuler, K Dvořáková | and Z Malík | | |
| → View abstract | View article | PDF | |
| OPEN ACCESS | | | 012109 |
| The Influence of Heat (| Gains on the H | eating System Design | |
| J Spurny and M Kabrhel + View abstract | View article | PDF | |

OPEN ACCESS

IOP Conference Series: Earth and Environmental Science, Volume 290, 2019 - IOPscience A Feasibility Study on the Waste-to-Biogas SOFC-Based Multi-Generation with Energy 012110 Storage System for Building Applications in China S Zhang, Q Wang, L Hu, W Shi and M Qu PDF View article ♣ View abstract Sustainable urban development **OPEN ACCESS** 012111 Material Efficiency of Housing in Times of Demographic Change – Evidence from Case Study Research into two German Municipalities A Blum and R Gutting View article PDF + View abstract **OPEN ACCESS** 012112 From Assessment to Implementation: Design Considerations for Scalable Decision-Support Solutions in Sustainable Urban Development V Bukovszki, D Apró, A Khoja, N Essig and A Reith View article + View abstract PDF **OPEN ACCESS** 012113 A Systemic Approach for the Optimization of Urban Surfaces Usage S Croce, D Vettorato and R Paparella **+** View abstract View article PDF **OPEN ACCESS** 012114 Building-Integrated Photovoltaics and Urban Environment from the Perspective of Sustainable Architecture M Čeněk and D Hlaváček View article PDF **OPEN ACCESS** 012115 Exploring Concept of Sustainability through Understanding Traditional Resource Management Practices: Case of Thar Desert, India

D Ghosh Saxena

+ View abstract
 ■ View article
 ▶ PDF

OPEN ACCESS 012116

Ecosystem Services Assessment Methods for Integrated Processes of Urban Planning. The Experience of LIFE SAM4CP Towards Sustainable and Smart Communities

C Giaimo and S Salata

+ View abstract
 ■ View article
 ▶ PDF

OPEN ACCESS 012117

Study on Spatial Evolution of Chinese Green Building T Hao and J Wang View article 🏞 PDF + View abstract **OPEN ACCESS** 012118 Challenges and Opportunities of Urban Fabrics for Sustainable Planning In Cuenca (Ecuador) M A Hermida, D Cobo and C Neira **+** View abstract View article 🄼 PDF **OPEN ACCESS** 012119 Periurban Urbanization and Travel Choice Behaviour: Problem or Solution? M A Hermida, D Astudillo and F León View article 🄼 PDF ♣ View abstract **OPEN ACCESS** 012120 Communities Shaping Sustainable Cities J Hořická View article PDF **+** View abstract **OPEN ACCESS** 012121 Measuring Livability at the Neighborhood Scale - Development of Indicators and Methods for the Comparison between Neighborhoods and Best Practice within the Chosen City H-H Chen and U Dietrich + View abstract View article 🄼 PDF **OPEN ACCESS** 012122 GIS-3D Platform to Help Decision Making for Energy Rehabilitation in Urban **Environments** J L Izkara, A Egusquiza and A Villanueva **★** View abstract ■ View article 🔼 PDF **OPEN ACCESS** 012123 Can Buildings Save and Improve Municipal Infrastructure? W Kujawski View article 🔼 PDF **+** View abstract **OPEN ACCESS** 012124

Sustainable Campus Development in the Context of a Private Higher Education Institution in Hong Kong, a Case Study at the Hang Seng University of Hong Kong

HHY Lee

♣ View abstract

▼ View article

PDF

OptEEmAL: Decision-Support Tool for the Design of Energy Retrofitting Projects at **District Level**

M A García-Fuentes, G Hernández, V Serna, S Martín, S Álvarez, G N Lilis, G Giannakis, K Katsigarakis, L Mabe, X Oregi, D Manjarres, H El Ridouane and L De Tommasi

+ View abstract

OPEN ACCESS

Retrofitting Hospitals: a Parametric Design Approach to Optimize Energy Efficiency

J Gaspari, K Fabbri and L Gabrielli

22.7.2019

OPEN ACCESS

A A Rashid Kbah

+ View abstract

+ View abstract

★ View abstract

+ View abstract

OPEN ACCESS

OPEN ACCESS

D Vytlačil

OPEN ACCESS

OPEN ACCESS

OPEN ACCESS 012131

Typology of Unclassified Buildings and Specifics of Input Parameters for Energy Audits in Latvia

A Geikins, A Borodinecs, G Daksa, R Bogdanovics and D Zajecs

■ View article 🄼 PDF **+** View abstract

OPEN ACCESS 012132

18/23

Development of a Modular Retrofitting System for Residential Buildings and Experience from Pilot Installation

OPEN ACCESS

A Vasallo, E Vallejo, G Massa, A Macía, L Pablos, C Criado, E Arrizabalaga, J Iturralde, A Gordaliza, I De Castro and F Larrinaga

+ View abstract

OPEN ACCESS 012139

Energy Sustainable Living - Deep Renovation of Residential Building - PAVE

J Včelák and E Novák

22.7.2019

+ View abstract

+ View abstract

♣ View abstract

+ View abstract

♣ View abstract

+ View abstract

OPEN ACCESS

OPEN ACCESS

OPEN ACCESS

OPEN ACCESS

OPEN ACCESS

M Holický

View article + View abstract 🄼 PDF

OPEN ACCESS 012140 Incremental Integrated Holistic Rehabilitation: A New Concept to Boost a Deep Renovation of the Existing Building Stock

Existing Building Stock J Zanni, S Labò, C Passoni, E Casprini, A Marini, A Belleri and C Menna

PDF View article ♣ View abstract Indoor environmental quality **OPEN ACCESS** 012141 Influence of Airflow on Thermal Comfort in an Energy-Saving House D Adamovský and M Kny 🔁 PDF + View abstract View article **OPEN ACCESS** 012142 Performance Analysis and Energy Saving Potential of Room Integrated PCM Wallboards for Passive Cooling Application B Chhugani, M Yasin, F Klinker, H Weinlaeder, S Weismann and M Reim 🔁 PDF **+** View abstract View article **OPEN ACCESS** 012143 Acoustic Evaluation of the Air-Conditioning Unit in the Room J Králíček and M Kučera ■ View article 🄼 PDF ♣ View abstract **OPEN ACCESS** 012144 Assessment of the Indoor Environment for Education M Kraus and P Nováková 🔁 PDF View article **OPEN ACCESS** 012145 Daylighting Design Process for Visual Comfort and Energy Efficiency for a Signature Building N Kutlar and M P Mengüç ■ View article 🔁 PDF **+** View abstract **OPEN ACCESS** 012146 Effect of the Personalized Ventilation to a Human Thermal Comfort V Mazanec and K Kabele View article 🔼 PDF ♣ View abstract **OPEN ACCESS** 012147 Virtual Air Temperature Function for Room Thermostats

+ View abstract

O Nehasil, J Horváthová, A Kohoutková and M Kny

View article

🔁 PDF

OPEN ACCESS 012148 A Commercial Building Lighting Demand-Side Management through Passive Solar Design O K Overen, E L Meyer and G Makaka View article 🄼 PDF **+** View abstract **OPEN ACCESS** 012149 Measuring Airtightness in a Tall Multi-Family Passive House when Exposed to Wind and Thermal Lift (Stack Effect) S Rolfsmeier and P Simons **◆** View abstract View article PDF **OPEN ACCESS** 012150 Potted Plants as Active and Passive Biofilters Improving Indoor Air Quality J Sowa, J Hendiger, M Maziejuk, T Sikora, Ł Osuchowski and H Kamińska View article 🔁 PDF **+** View abstract **OPEN ACCESS** 012151 Sound Insulation of a Wall in a Panel House with Demountable Joints J Vychytil and M Vychytil **+** View abstract ■ View article 🄼 PDF Heritage regeneration and sustainability **OPEN ACCESS** 012152 Technical Cultural Heritage on the Elbe-Vltava Waterway P Fošumpaur, T Kašpar and M Zukal PDF View article **+** View abstract **OPEN ACCESS** 012153 Sirius: Retrofitting Brutalism in Sydney V Gandh and ML North View article **+** View abstract 🔼 PDF **OPEN ACCESS** 012154 Potential and Impact of Incorporating Roof Photovoltaic to Enhance Environmental Sustainability of Historic English Churches in the United Kingdom S Khatri, K Ip, M Picco and A Hashemi View article 🄼 PDF **+** View abstract **OPEN ACCESS** 012155

Cost Optimization for Renovation and Maintenance of Cultural Heritage Objects

S Bhattacharjee, E Gerasimova, C Imbert, J Tencar and F Rotondo

22.7.2019

Contact us

Reprint services from Curran Associates