PROGRAMME

03– 05 September 2019, University of Florence, Italy

Venue: School of Architecture Santa Teresa
Via Della Matonaia 14 – 50125 Florence Italy
Tel. +39 055 2755410, +39 335309948

WWW.MEDGREENFORUM.COM

THIS IS PART OF WORLD RENEWABLES ENERGY CONGRESS
Chairman’s Welcome

This is the fifth WREN-WREC Med Green Forum 5th and the third one to be held in Florence, City of art, culture and beauty, teaming with ABITA from University of Florence and ETA from Renewable Energy Florence.

The three Organizations: WREN, ABITA and ETA are working together to highlight the importance of sustainable buildings and renewable energy especially in regions of abundant sunshine.

I would very much like to thank all the sponsors of this event, especially ISESCO and SPRINGER and other Italian companies and authorities. I very much like to thank the various committees for their hard work and commitment and the University of Florence in letting us use their facilities during the summer vacation.

On behalf of my colleagues, Professor Marco Sala, Ms Angela Grassi and I, we wish you all the success in delivering your scientific work at the Forum and having a rewarding experience in networking and meeting new friends.

Aki Sayigh
Chairman of Med Green Forum
Monday 02 September

17:00 – 18:15 Registration 18:15 – 19:00 Reception at SANTA TERESA

Tuesday 03 September

09:00 – 09:30 OPENING REMARKS & PLENARY 1- ROOM 401
Chair: Prof Ali Sayigh – Brighton, UK
Welcome Speech by Prof Ali Sayigh
Chairman of World Renewable Energy Congress & DG of WREN, Brighton – UK
Welcome Speech by Prof. Saverio Mecca
Director of DID, Department of Architecture – University of Florence - Italy
Welcome Speech by Prof Vincenzo A Legnante
Ex Dean of the School of Architecture, Universiity of Florence - Italy
Welcome Speech by Prof Marco Sala
President of ABITA, Florence - Italy

09:00 – 11:00 KEY NOTES PRESENTATION - ROOM 401
Chair: Prof Marco Sala – Florence, Italy

1. Solar and Wind Energy will supply more than 50% of world electricity by 2030
   Prof Ali Sayigh, Chairman of WREC & Director General WREN, Brighton, UK
2. The Ethics and Principles of being an Architect
   Prof Vincenzo A Legnante – Ex Dean of the School of Architecture, Florence Italy
3. Energy Balance Analysis for an Island PV Station used for EV-charging on the basis of Net-metering
   J.K. Kaldellis, G. Spyropoulos, K. Christopoulos, University of West Attica (UNIWA), Athens 1220, Greece

11:00 – 11:20 COFFEE BREAK

11:20 – 13:00 INVITED SPEAKERS - ROOM 401
Chair: Prof Riadh Al-Dabbagh – Ajman, UAE

1. Extreme Design: Preparing for a Different Future
   Susan Roaf¹, Joao Pinelo Silva², Manuel Correia Guedes³
   1 Institute of Sustainable Buildings Design, Heriot Watt University, UK
   2 Department of Architecture and Interior Design, University of Bahrain, Bahrain
   3 University of Lisbon, IST, Portugal
2. Paving the Way towards Zero Energy Hospitals in the Mediterranean Region
   Despina Serghides¹, Stella Dimitriou¹, Ioanna Kyprianou¹
   1 Energy, Environment and Water Research Center (EEWRC), The Cyprus Institute, Cyprus
3. Energy and ecology efficiency as a chance for cultural heritage
   Prof. Arch. PhD Alessandra Battisti, Dipartimento DISDRA La Sapienza, ROMA, ITALY
4. Energy retrofit cost-optimal design solutions in social housing: the case of three tower buildings of the Eighties
   Michele Morganti¹ ², Valerio Vigoni³, Edoardo Currà⁴, Alessandro Rogora⁴
   1 Department of Architecture and Urban Studies, Politecnico di Milano, Milano, Italy
   2 Architecture & Energy, Department of Architectural Technology, UPC Barcelona Tech, Barcelona, Spain
   3 Building Engineer
   4 DICEA Department, Sapienza University of Rome, Roma, Italy
13:00 – 14:00  LUNCH BREAK

14:00 – 15:30  TECHNICAL SESSION  –  ROOM 401
Chair : Prof Mohsen Aboulnaga  –  Egypt  -  ROOM 401

1. Assessing optimal U-value in residential buildings in temperate climate conditions considering massive dynamic simulation and statistical uncertainty
Giacomo Chiesa1, Andrea Acquaviva2, Lorenzo Bottaccioli3, Mario Grosso, Francesca Pacella4, Annalisa Pelati4, Stefania Titone4
1 Politecnico di Torino, Department of Architecture and Design, Torino, Italy;
2 Politecnico di Torino, Department DIST; Italy
3 Politecnico di Torino, Department DAUIN and EClab; Italy
4 Politecnico di Torino, Department DET, students M.Degree in ICT4SS, Italy

2. Sustainable construction methods and materials in hot arid climatic region of Iran
Seyedehmamak Salavatian
Department of Architecture, Rasht Branch, Islamic Azad University, Rasht, Iran

3. Winery and oil-factory recovery and regeneration in Veglie: bioclimatic and sustainable principles.
Dora Francese, Cittam, University of Naples “Federico II”, Naples, Italy

4. Building Beauty – a new program teaching students to help heal the world
Yodan Rofè*, Sergio Porta, Susan Ingham, Chris Andrews, Or Ettlinger, Paolo Robazza and Maggie Moore Alexander
Department of Geography and Environmental Development, Ben-Gurion University of the Negev, Israel.

14:00 – 15:30  TECHNICAL SESSION  –  2
Chair : Mr Rainer Hinrichs-Rahlwes  –  Germany ROOM 402

1. European First Recyclable Facade System With Reclosable Fastner Fixation - Research Development, Grants of Patents, Pre-Certification Testing’s and Product Publication of Façade System StoSystain R
Ferdinand OSWALD, Dr. techn. Dipl. Ing. Arch, School of Architecture and Planning, University of Auckland, New Zealand

2. Energy management & savings in the domestic situation, A Case Study3
Mr Tony Book, Hove, UK

3. Climate Action: Urban Farming as an Innovative Tool for Regenerating Cities to be Sustainable Case of the City of Conegliano, Italy
Mohsen M. Aboulnaga1*, Youssef M. AbouZied2, and Sara S. Abouelsoud3
1 Professor of Sustainable Built Environments, Dept. of Architecture, Cairo University, Egypt,
2, 3, Research students, Dept of Architecture, Faculty of Engineering, Cairo University, Egypt

4. Urban spaces for playing in thermal comfort conditions. A case studyV.
Dessi1, R. Eltonouby2
1 Dept DASTU, Politecnico di Milano, Milan, Italy

15:30 – 16:00  COFFEE BREAK

16:00 – 17:00  TECHNICAL SESSION  –  3
Chair : Dr Antonella Trombadore  –  Italy ROOM 401

1. Green Living Building Solutions. Towards the renovation of the construction sector under industry 4.0, Hybrid manufacturing & building construction technology.
Dr. Fernando Recalde (Ph.D), Senior Research Consultant, ABITA, Department of Architecture, Florence, Italy
CEO Italian Green Design Studio, Florence Italy

2. Smart active envelope solutions, integration of Photovoltaic/Thermal Solar Concentrator in the
building façade.
Lucia Ceccherini Nelli¹, Alberto Reatti²
¹Department of Architecture DIDA, University of Florence, Firenze, Italy
²Department of Information Engineering, University of Florence, Florence, Italy

3. **Passive Design Strategies of Colonial Mosques in Malaysia**
Aliyah Nur Zafirah Sanusi¹, Fadzidad Abdullah¹, Aida Kesuma Azmin¹, and Mohd Hisyamuddin Kassim¹
¹International Islamic University Malaysia

### TECHNICAL SESSION – 4
**Chair: Prof Marco Sala – Italy ROOM 402**

1. **Feasibility Study of a Low Carbon House in Tabriz, Iran**
Dr Hossein Mirzaie and Mrs Sanaz Hariri Shabestari
Faculty of Science, Engineering and Computing, Kingston University, Kingston, UK

2. **Physical and Economic Aspects of New Material Production Technologies for Sustainable Development of Photovoltaics**
Sergey M. Karabanov¹, Dmitry V. Suvorov¹, Dmitriy Y. Tarabrin¹, Evgeny V. Slivkin¹, Andrey S. Karabanov², Oleg A. Belyakov²
¹Ryazan State Radio Engineering University, Ryazan 390005, Russia;
²Helios Resource Ltd., Mordovia

### WEDNESDAY – 4 September

**09:00 – 11:00**
**KEYNOTE PRESENTATIONS**
**Chair: Dr Marta Szabo – Hungary ROOM 401**

1. **Climate-neutral Europe 2050 – How to bridge the gap between vision and implementation**
Rainer Hinrichs-Rahlwes, Berlin, Germany

2. **Climate Adaptation Action: the role of Clean Energy and Strategic Action Plans of South Mediterranean Cities**
Mohsen Aboulnaga¹, Naguib Amin², and Bruno Rebelle³
¹Professor of Sustainable Built Environments, Faculty of Engineering, Cairo University, Egypt
²CES-MED Project’s Team Leader, Beirut and Morocco, Egypt
³Managing Director, Transitions, France, Paris, France

3. **SMART AND SUSTAINABLE URBANISM WITH IDENTITY IN MEDITERRANEAN CITIES**
Derya Oktay, Prof. Dr., Faculty of Architecture, Ondokuz Mayis University, Samsun, Turkey.

4. **A REVIEW OF GREEN HEALTHCARE SYSTEM BASED ON MAIN FEATURES IN SUPPORTING SUSTAINABILITY - AN OVERVIEW**
Dr. Jazla Fadda, Visionary Mindset Professional & Management Development Training, Dubai, UAE

**11:00 – 11:20**
**COFFEE BREAK**

**11:20 – 13:00**
**INVITED SPEAKERS**
**Chair: Dr Lucia Ceccherini Nelli – Italy ROOM 401**

1. **The development of Renewable Energy in Buildings in UAE.**
Prof. Riadh H. A. L-Dabbagh, Ajman University, UAE

2. **People and Place: identity survey and responsible design for architectural resilient regeneration process**
Paola Puma, Antonella Trombadore, University of Florence – Italy

3. **Significance of Courtyard Houses Design in the Arab World**
Dr Falah AlKubaisy, Development Advisor, Bahrain

4. **Efficient energy conversion contribution in urban area transition toward smart cities**
13:00 – 14:00  LUNCH BREAK

14:00 – 15:30  TECHNICAL SESSION – 5  
Chair: Prof Derya Oktay  –  Turkey ROOM – 401

1. The intangible resources of vernacular architecture for green and responsible tourism in Mediterranean Areas  
Antonella Trombadore, University of Florence – Italy

2. URBAN GRAPEVINE – Visions of Regenerative Multi-Family Housing in Washington, DC  
The Urban Grapevine Collaborative: 4002 Underwood Street, Chevy Chase, MD 20815 USA  
Michael Binder¹, Marcie Meditch², Lael Taylor², Jenny Wienckowski³  
1 Binder Regenerative Design, Washington DC, USA  
2 Meditch Murphey Architects, Chevy Chase, USA  
3 Rain Underground LLC, Baltimore, USA

3. Evaluation of multifunctional aspects of a green roof in mitigating the negative effects of urbanization in Mediterranean environment.  
Pratesi Martina, Cinelli Fabrizio, Santi Giovanni  
Department of Energy, Systems, Territory and Constructions Engineering, University of Pisa, Pisa, Italy

4. Energy auditor and building certification -Three school buildings case studies in Florence, Italy  
Lucia Ceccherini Nelli¹, Alessandra Donato²  
Department of Architecture DIDA, University of Florence, Firenze, Italy.

14:00 – 15:30  TECHNICAL SESSION – 6  
Chair: Prof Alessandra Battisti  –  Italy ROOM – 402

1. The Potential of Solar Thermal in Europe  
Marta Szabo, PhD, Szent Istvan University, Godollo, Hungary

2. External insulation systems for buildings with complex façades in urban historic centers  
Paolo Carli – Assistant professor @ DASTU – Politecnico di Milano  
Alessandro Rogora – Full professor @ DASTU – Politecnico di Milano  
Alessandro Trevisan – Architect

3. A Developed Slide Mode Control Strategy Applied to PV pumping System  
1Sarah Adoulraziq, 2Med Amine Abdourraziq  
1Sidi Mohammed Ben Abdellah University, Fez, MOROCCO

4. Short Considerations on Urban Dynamics  
Dr. Arch. RUXANDRA CRUTESCU GHERASIM, Active Green Architects, Bulevardul, Romania 5

15:30 – 16:00  COFFEE BREAK

16:00 – 17:00  TECHNICAL SESSION – 7  
Chair: Prof Maurizio Carta  –  Italy ROOM – 401

1. Impacts of Exploiting Nano-coating on Buildings’ Façades to Improve Air Quality in Megacities, Mitigate Climate Change and Attain Liveability  
Ehsan M. Elhennawi¹* and Mohsen M. Aboulnaga²  
1 Research Student, Department of Architecture, Faculty of Engineering, Cairo University, Egypt  
2 Professor of Sustainable Built Environments, Department of Architecture, Cairo University, Egypt

2. Refurbishment of Goris Old Batshs Buildings as Tool for Historic Urban Environmental reen traditions reabilitation  
Nune Petrosyan¹*, Marina Bunatyan²
National University of Architecture and Construction of Armenia

3. **Study of the Possibility of IoT Use in a Microgrid on the Basis of Renewable Energy Sources**

Sergey M. Karabanov¹, Pavel P. Bezrukikh², Oleg V. Loban¹, Sergey S. Belykh², Dmitriy V. Suvorov¹

1 Ryazan State Radio Engineering University, Ryazan 390005, Russia
2 Moscow Power Engineering Institute, Moscow, Russia

16:00 – 17:00 **TECHNICAL SESSION – 8**

Chair: Prof Antonella Violano – Italy ROOM – 402

1. **Comfortable places for moving and rest along cycle paths.**

Valentina Dessi, Dept. DASTU, Politecnico di Milano, Milan, Italy

2. **Enhancing Energy Consumption using BIM: A Case Study of Egyptian Palace**

Mohamed Marzouk¹, Maryam ESharkawy², and Aya Eissa³

1 Professor, Structural Engineering Department, Faculty of Engineering, Cairo University, Egypt
2 PhD Candidate, Architectural Engineering Department, Faculty of Engineering, Cairo University, Egypt
3 MSc Student, Architectural Engineering Department, Faculty of Engineering, Cairo University, Egypt

**THURSDAY – 5 September**

09:00 – 11:00 **KEYNOTE PRESENTATIONS**

Chair: Prof Marco Sala – Italy ROOM - 401

1. **Green Sustainable Regional Development and Digital Era**

Narcisa Roxana Mosteanu, Professor PhD, AUE, UAE

2. **Towards Resilient Cities: Improving Unplanned Urban Areas – Strategic Environmental Assessment and Upgrading Guidelines in Developing Countries**

Mai M. Barakat¹, Mohsen M. Aboulnaga², and Mona F. Badran³

1 Research Student, Dept. of Architecture, Faculty of Engineering, Cairo University, Egypt
2 Professor of Sustainable Built Environments, Dept. of Architecture, Cairo University, Egypt
3 Associate Professor, Dept. of Economics, Faculty of Economics and Political science, Cairo, Egypt

3. **Fallacies and Misunderstandings about Global Warming**

Prof. Don Swift-Hook, Visiting Professor at Kingston University, London and Secretary of WREN, UK

4. **Future Cities for Climate Action: Automated Code Compliance Checking in Reference to Energy Efficiency Building Regulations**

Asmaa S. Eid¹, Mohsen M. Aboulnaga², Ayman H. Mahmoud³ and Mohamed M. Marzouk⁴

1 PhD Research Student, Dept. of Architecture, Faculty of Engineering, Cairo University, Egypt
2 Professor of Sustainable Built Environments, Dept. of Architecture, Cairo University, Egypt
3 Professor of Sustainable Architecture & Landscape, Faculty of Engineering, Cairo University, Egypt
4 Professor of Construction Engineering & Management, Dept. of Structural Engineering, Cairo, Egypt

11:00 – 11:20 **COFFEE BREAK**

11:20 – 13:00 **INVITED SPEAKERS**

Chair: Dr Fernando Recalde – Italy ROOM - 401

1. **Urban regeneration with rooftop farming pilot projects**

Lucia Ceccherini Nelli
Department of Architecture DIDA, University of Florence, Firenze, Italy

2. **The role of the architectural survey in the sustainable refurbishment of the historical building heritage**

Paola Puma, University of Florence, Department of Architecture, Florence, Italy

3. **Analysis of wind energy potential inside a tunnel located on the highway**

Kamil M. Yousif¹, Diyar A. Bleej², Alan I. Saeed³ and Rezheen A. Bleej⁴
4. The Role of Urban Farming in Revitalising Cities for Climate Change Adaptation and Attaining Sustainable Development: Case of the City of Conegliano, Italy
Haidy Mousa\textsuperscript{1}, May Elhadidi\textsuperscript{2}, Hadil Abdelhafez\textsuperscript{3}, Pietro Tonini\textsuperscript{4}, Lorenzo Fellin\textsuperscript{5}, Antonella Frongia\textsuperscript{6}, Virginia Castellucci\textsuperscript{7} and Mohsen Aboulnaga\textsuperscript{8}
1, 2, 3, Research students, Dept. of Architecture, Faculty of Engineering, Cairo University, Egypt
4, 5, 6, Research students, Dept. of Agricultural Sciences and Technologies, University of Bologna, Italy
7 Research student, Dept. of Economic and Business Sciences, University of Trento, Italy
8Professor of Sustainable Built Environments, Dept. of Architecture, Faculty of Engineering, Cairo University, Egypt.

5. Impact of traditional architecture on the thermal performances of building in south Morocco
K. El Azhary\textsuperscript{1}, M. Ouakarrouch\textsuperscript{1}, N. Laaroussi\textsuperscript{1}, M. Garoum\textsuperscript{1}, M. Mansour\textsuperscript{2}
1University Mohammed V in Rabat, (MEAT), Salé Médina, Morocco
2National School of Architecture Rabat, Medinet Al Irfane, Rabat, Morocco

6. The diurnal and nocturnal aspects of Urban Heat Island during the four seasons - Case of Casablanca
L. El Ghazouani\textsuperscript{a}, M. Mansour, A. Lachir\textsuperscript{b}, M. Faouzi Smiej\textsuperscript{c}, N. Laaroussi\textsuperscript{d}
aNational School of Architecture of Rabat, Allal El Fassi Avenue, Rabat, Morocco;
bNational School of Architecture of Agadir, Nouveau complexe universitaire, Agadir Morocco;
cRoyal Centre for Remote Sensing, FAR avenue, Rabat, Morocco;
dMohammed V University in Rabat, EST Salé, Materials Energy and Acoustics Team (MEAT), Salé, Morocco.

13:00 – 14:00 LUNCH BREAK

14:00 – 15:30 POSTER - SESSION - Chair: Dr Fernando Recalde - Italy

JUDGES: Prof. Vincenzo Legnante, Prof. Maurizio Carta, Prof. Marco Sala, Prof. Ruxandra Crutescu, Prof. Alessandra Battisti, Prof. Fernando Recalde, Prof. Ali Sayigh,
Dr. Rainer Hinrichs-Rahlwes, Prof. Riadh Al-Dabbagh

15:30 – 16:00 COFFEE BREAK

16:00 – 17:00 POSTERS AWARDS & CLOSING CEREMONY

17:15 – 18:30 RECEPTION

ADDRESS OF SCHOOL OF ARCHITECTURE, FLORENCE, ITALY

Santa Teresa
Via Della Mattonaia N.14
Tel.+39 055 2755418, +39 335309948

FORUM HOTEL
Grand Hotel Mediterraneo
Lungarno del Tempio
50121 Florence
Tel: +39 055 660241
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