POSTER 2: UCD - Impact of urban forms on comfort and ventilation

Spatial variability of thermal comfort index in the Amazonian city of Belém-PA, associated with land cover characteristics, social and environmental aspects
Hernani José Bразão Rodrigues\textsuperscript{1}, João de Athaydes Silva Junior\textsuperscript{1}, Antonio Carlos Lôla da Costa\textsuperscript{2}, Jawer Carlos Brito Pezzuti\textsuperscript{1}, Rafael Ferreira da Costa\textsuperscript{1}, João Roberto Pinto Fisoe\textsuperscript{a}
\textsuperscript{1}Federal University of Pará, Brazil; \textsuperscript{2}Universidade Federal Rural da Amazônia; \textsuperscript{a}Universidade Federal do Oeste do Pará;
hernani@ufpa.br

Climatically Adapted Piloti Arrangement and Ratio of Residential Blocks in a Subtropical Climate City
Zeng Zhou\textsuperscript{1}, Qinli Deng\textsuperscript{2}, Akashi Mochida\textsuperscript{1}
\textsuperscript{1}Wuhan University, China; \textsuperscript{2}Tohoku University, Japan;
haomaoz@hotmail.com

Study on the Green Strategies of Chinese “Neo-vernacular Architecture” Design
Ying Wang, Xiaofeng Li, Yuelang Gan
Huazhong University of Science and Technology, China, People’s Republic of;
wangyingenjoy@126.com

Microclimate Regulation by Trees in a Subtropical High-Density Urban Environment during Sunny and Cloudy Weather
Zheng Tan
The Chinese University of Hong Kong, Hong Kong S.A.R. (China);
tanya@cuhk.edu.hk

PROPOSITION OF AN INDEX QUANTIFYING THE AMOUNT OF VEGETATED FRACTION NEEDED FOR AIR TEMPERATURE CHANGES IN URBAN LOCATIONS
Flavia Minella, Eduardo Kruger
UTFPR, Brazil, Germany;
ekruuger@utfpr.edu.br

Study on the Cooling Effects of Green Spaces for Improving the Outdoor Thermal Environment in the High-density Cities: A Case Study of Macau Peninsula
Fangying Gong, Edward Y Y Ng, Chao Ren
School of Architecture, The Chinese University of Hong Kong, Hong Kong S.A.R. (China);
gong.cuhk@gmail.com

The suitability of vernacular architecture principles to contemporary constructions in tropical hot-humid climate
MARCUS VINICIUS DE PAIVA RODRIGUES\textsuperscript{1,2}
\textsuperscript{1}UNIVERSITY OF SOUTHAMPTON, United Kingdom; \textsuperscript{2}UNICAMP, Brazil;
mv.paivarodrigues@globo.com

Influence of different urban configurations on human thermal conditions in a typical subtropical coast city: case of Santos, São Paulo
Loyde Vieira de Abreu-Harbich\textsuperscript{1}, Lucila Chebel Labaki\textsuperscript{1}, Andreas Matzarakis\textsuperscript{2}
\textsuperscript{1}State University of Campinas, Brazil; \textsuperscript{2}Albert-Ludwigs-University Freiburg, Germany;
loydeabreu@gmail.com

Variability of longwave radiation in a midsize city: Experiments in free spaces in São Carlos-SP.
Gustavo Zen de Figueiredo NEVES\textsuperscript{1}, Ricardo Augusto Felício\textsuperscript{3}, Silvio Soares Macedo\textsuperscript{4}, Elis Dener Lima Alves\textsuperscript{5}
\textsuperscript{1}University of São Paulo, Brazil; \textsuperscript{2}University of São Paulo, Brazil; \textsuperscript{3}University of São Paulo, Brazil;
\textsuperscript{4}University of São Paulo, Brazil;
gustavozen@outlook.com

Green infrastructure enhancement in Glasgow: A proposal based on Local Climate Zone evaluation of urban morphology in a shrinking city
Rohinton Emmanuel\textsuperscript{1}, Patricia Regina Chavez Drach\textsuperscript{2}, Alessandro Loconsole\textsuperscript{3}
\textsuperscript{1}Glasgow Caledonian University, United Kingdom; \textsuperscript{2}University of Rio de Janeiro, Brazil;
\textsuperscript{3}University of Salento, Italy;
rohinton.emmanuel@ecu.ac.uk

Cold and urban design. Challenging Russian cities
Anna Nesterova
Politecnico di Milano, Italy;
nesterova.a.a@gmail.com

The influence of urban geometry on thermal comfort of public open spaces for Italian climate zones
Letizia Martinelli\textsuperscript{1,2}, Andreas Matzarakis\textsuperscript{2}
\textsuperscript{1}Sapienza - University of Rome, Italy; \textsuperscript{2}Albert Ludwigs University, Freiburg, Italy;
letizia.martinelli@gmail.com

Architectural bioclimatic analysis of kashan and presentation
Quantification of thermal bioclimate of Erzurum based on different land uses and thermal band information

Sevgi Yilmaz1, Hasan Yilmaz2, Nalan Demircioglu Yildiz3, M. Akif Irmak4
1Ataturk University, Turkey; 2Ataturk University, Turkey; 3Ataturk University, Turkey; 4Ataturk University, Turkey;
syilmaz_68@hotmail.com

Potential contributions of urban developments to outdoor thermal comfort conditions: The influence of urban geometry and form in Worcester, Massachusetts, USA

Milad Zabeti Targhi
Worcester Polytechnic Institute, United States of America;
mzabetitarghi@wpi.edu

Study of urban ventilation corridor planning method based on a case study of Guiyang, China

Yugang Guan, Hong Chen, Xuefan Zhou
Huazhong University of Science and Technology, China, People's Republic of;
chenhong.sau.hust@gmail.com

Using GIS tools to assess the urban environment influence on the particles concentration variability in Paris

Sarah Duché1, Malika Madelin2
1PMCLab - University Pierre & Marie Curie, Paris, France; 2University Paris Diderot, Sorbonne Paris Cité - UMR CNRS PRODIG, Paris, France;
sara.duche@gmail.com

Role of Vegetation, urban morphology and building rise in air quality and urban heat island: simulations in five Parisian neighborhoods.

Alberto ORTIZ1,2, Jean-Marie CARIOLET3, Morgane COLOMBERT4, Vincent BECUE1,2
1EIVP, France; 2University of Mons, Belgium
alberto.ortiz@eivp-paris.fr
**Study on the effect of morphologic features and material properties on microclimatic development and pedestrian comfort**

Hideki Takebayashi\(^1\), Sae Kyogoku\(^1\), Sintaro Nakayama\(^1\), Kentaro Aoyama\(^1\), Etsuko Ishii\(^1\), Makiko Kasahara\(^1\), Shingo Tanabe\(^1\), Makoto Kouyama\(^1\)

\(^1\)Kobe University, Japan; \(^2\)Nikken Sekkei Ltd, Japan;

thideki@kobe-u.ac.jp

**Urban Microclimatic Improvement Effects to Building Blocks Energy Consumption by the Use of Energy Simulation**

STAMATIS ZORAS\(^1\), VERANOUDIS SOTIRIS\(^2\), MAVROS KOLIDIS STAVROS\(^2\), ARGYRO DIMOUDI\(^4\)

\(^1\)Democritus University of Thrace, Greece; \(^2\)Democritus University of Thrace, Greece; \(^3\)Democritus University of Thrace, Greece; \(^4\)Democritus University of Thrace, Greece;

szoras@env.duth.gr

**A coupled modelling approach to quantify the microclimatic effects of green infrastructure on residential buildings**

Teresa Zolich, Johannes Maderspacher, Stephan Pauleit, Werner Lang

TU München, Germany;

teresa.zoelch@tum.de

**Microclimate Ethnography in the Ard el Lewa Informal Quarter of Cairo, Egypt**

Sascha Roesler

Future Cities Laboratory, Singapore;

roesler@arch.ethz.ch

**Simulation of indoor climate with façade dynamics & building – atmosphere interaction**

Helge Simon, Michael Bruse

Environmental Modelling Group, Germany;

h.simon@geo.uni-mainz.de

**Reconceptualization of Climate Classifications and Climate Analysis Tools to Support Evaporative Building Cooling Strategies in the Hot Humid Tropics**

Claudio Aurelio Diaz, Steve King, Paul Osmond

University of New South Wales, Australia;

claudio.diaz@student.unsw.edu.au

**Urban greening and cool surfaces: the effectiveness of climate change adaptation strategies within the context of Budapest**

Csilla V Gal

Illinois Institute of Technology, United States of America;

cgal@hawk.iit.edu

**Studying the interaction of Iranian traditional architecture with nature through Sustainable Development**

mehdi frotan, hojat ebrahimi, sadegh khatami

iran, Iran, Islamic Republic of;

www.frotanmehdi@yahoo.com

**Development to the forecasting system of indoor environment using atmospheric condition of building scale**

Ji-Sun Lee\(^1\), Kyu Rang Kim\(^1\), Chaeyeon Yi\(^1\), Byoung-Choel Choi\(^1\), Dieter Scherer\(^3\)

\(^1\)National Institute of Meteorological Research (NIMR)/KMA, Korea, Republic of (South Korea); \(^2\)Weather Information Service Engine project, Seoul, Rep. of Korea; \(^3\)Department of Ecology, Technische Universität Berlin, Germany;

ljun6@gmail.com

**Thermal comfort in housing under solar obstruction derived from high building in urban renovation areas.**

LUZ ALICIA CARDENAS-JIRON, DIEGO VILCHES

UNIIVERSITY OF CHILE, Chile;

lcardena@uchilefau.cl

**Potential of solar energy and the effects on the urban heat island**

Dominika Kassai-Szoó

Hungary, Hungary;

szoo.dominika@yahoo.com

**Comparative Study on Traditional and Modern Urban Textures: Form, Energy and Climate**

Yuan HUANG\(^2\), Zhen WANG\(^2\)

\(^1\)CISDI Group, China, People's Republic of; \(^2\)Huazhong University of Sci. and Tech., China, People's Republic of;

hy-fr@hotmail.com

**Comparison of air temperature sensitivity of electric power consumption between Tokyo and Hokkaido region**

Takahiro Mitsukuri, Hiroshi Miyazaki
Modeling reduction of Urban Heat Island effect by improving radiative properties of buildings and districts

Konrad Andre¹, Maja Zuvela-Alôise², Hannes Schwaiger², David Neil Bird², Heinz Gallaun³

¹ZAMG, Zentralanstalt für Meteorologie und Geodynamik, Austria; ²JOANNEUM RESEARCH Forschungsgesellschaft mbH, Austria;
konrad.andre@zamg.ac.at