



PROGRAMME

MONDAY, 4 DECEMBER 2023

8:00 | REGISTRATION
Building 80, Level 7, Foyer

9:00 | WELCOME Professor Priya Rajagopalan and Professor Hashem Akbari
Building 80, Level 7, Room 001U (Lecture Hall)

9:05 | OPENING ADDRESS

9:45 | PLENARY SESSION ONE: KEYNOTE Professor Mat Santamouris, *University of New South Wales, Australia*

10:30 | MORNING TEA

11:00 | PARALLEL SESSIONS

UHI and building performance-energy consumption and indoor comfort
Chair: *Veronica Soebarto, University of Adelaide, Australia*

Cool materials, roof, pavement and advance materials developments and characteristics
Chair: *Ronnen Levinson, Lawrence Berkeley National Laboratory, United States*

Modelling and forecasting urban climate and weather
Chair: *Mat Santamouris, University of New South Wales, Australia*

Building 80, Level 7, Room 001U

Building 80, Level 7, Room 6

Building 80, Level 7, Room 7

11:00 | Multi-scale pathways for reducing urban heat and building-scale energy inequities across cities
Lauren E Excell, Stanford University, United States [310]

11:00 | Numerical analysis of effects of windows with near-infrared rays retro-reflective film on outdoor thermal environment in a cubic cavity-type street canyon
Shinji Yoshida, Nara Women's University, Japan [312]

11:00 | A simplified method to calculate atmospheric CO2 equivalency for changing surface albedo
Hashem Akbari, Concordia University, Canada [273]

11:20 | Heterogeneity of building cooling and heating energy consumption of various urban heat islands
Qianhui Long, Ziyu Tong, Nanjing University, China [328]

11:20 | The potential of building facade materials to alleviate climate change in residential areas under different local climate zones
Zhe Gao, Xi'an Jiaotong University, China [355]

11:20 | Implementation of Numerical Techniques for Estimation and Investigation of Photovoltaic Heat Island (PVHI)
Steve Kardinal Jusuf, Singapore Institute of Technology, Singapore [293]

11:40 | Effect of Urban Heat Islands on the Air-Conditioning of an Operating Room
Francesco Tariello, University of Molise, Italy [347]

11:40 | Retro-reflection, thermochromism, and photoluminescence: smart solar reflection in multilayered adaptive skins for the built environments
Claudia Fabiani, University of Perugia, Italy [370]

11:40 | Mitigating Heat Islands and Simulating Efficacy in Future Climate Scenarios
Veda Baliga, Virtual Climate Ltd., United Kingdom [300]

12:00 | Impact of retro-reflective windowpanes on building energy demand and pedestrian thermal comfort under various neighbourhood settlements
Evrystheas M. Kyriakodis, CSTB, France [382]

12:00 | Spectral correlation between solar reflectance laboratory measurements and remote sensing of urban surfaces
Francesca Despini, University of Modena and Reggio Emilia, Italy [372]

12:00 | The identification of high-risk areas of heat stroke in urban areas using mean radiation temperature for the proposals for adaptation to the heat environment
Soshi Fujihara, Kansai University, Japan [303]

12:20 | Outdoor thermal environment mitigation and air conditioning energy conservation of retroreflective window films evaluated by an urban canopy model considering diffuse reflection/specular reflection/retro-reflection
Tomihiko Ihara, The University of Tokyo, Japan [387]

12:20 | Satellite albedo measurement: a novel procedure
Federico Rossi, University of Perugia, Italy [1352]

12:20 | Development of Integrated Environmental Modeller (IEM) for Creating Highly Liveable Residential Town in Singapore
*Hee Joo Poh, Institute of High Performance Computing, A*STAR, Singapore [315]*

12:40 | Summer thermal performance of high-rise social housing in Melbourne
Felipe Esteban Jara Baeza, RMIT University, Australia [399]

12:40 | Development of an experimental laboratory method to study biofouling process on cool surfaces
Giulia Santunione, University of Modena and Reggio Emilia, Italy [1383]

12:40 | An Urban Climate Simulation Model with Climate Change Scenarios
Dongwoo Lee, Hanyang University, South Korea [380]

13:00 | LUNCH



MONDAY, 4 DECEMBER 2023		
13:40 WELCOME <i>Building 80, Level 7, Room 001U (Lecture Hall)</i>		
13:45 PLENARY SESSION TWO: KEYNOTE Professor Edward Ng, <i>Chinese University of Hong Kong</i>		
14:30 PARALLEL SESSIONS		
UHI and building performance-energy consumption and indoor comfort Chair: Priya Rajagopalan, <i>RMIT University, Australia</i>	Cool Roof Workshop Sarah Schneider, <i>Cool Roof Rating Council</i>	Relationship between UHI and urban and city planning Chair: Joe Hurley, <i>RMIT University, Australia</i>
<i>Building 80, Level 7, Room 001U</i>	<i>Building 80, Level 7, Room 6</i>	<i>Building 80, Level 7, Room 7</i>
14:30 The heat emission-considered building design criterion in the early design process: Expert Survey Mansour Mohammed Alhazmi, <i>Arizona State University, US</i> [289]	Workshop Description: This workshop will provide an overview of how cool roofs and walls work to keep buildings and communities cooler; how these materials help reduce energy use; how these materials are evaluated and labelled; how the materials are tested and aged and how that information is incorporated into the product's radiative performance rating; and the important role of third-party product ratings in supporting the development and implementation of policies and programs that require or promote the use of cool roofs and walls as energy efficiency, heat mitigation, and heat equity strategies. Examples of what is being done at the U.S. federal, state, and local levels to promote the use of cool roofs and walls through codes and programs will also be provided. This workshop will also provide an overview of how to establish a third-party rating system and ratings organization, such as the Cool Roof Rating Council, the first ratings body for cool roofs and walls in the world. The CRRC will share best practices and insight into how the organization was created; how it has been integral to the deployment of cool roofs in the U.S.; challenges that were overcome throughout its 25-year existence; and an overview of technical and educational resources.	14:30 Effects of high rise on urban microclimate in tropical cities: a literature review Ricardo Victor Rodrigues Barbosa, <i>Federal University of Alagoas, Brazil</i> [294]
14:50 Evaluation of a microclimate simulation tool on an experimental mock-up and passive cooling strategies assessment Alexandre Bryk, <i>CSTB / La Rochelle Université, France</i> [326]		14:50 The effect of Climate and Urban Form on Building Energy Performance Arunim Anand, <i>Indian Institute of Technology Bombay, India</i> [356]
15:10 Responsive envelope components in climates requiring intensive heating and cooling: applicability and performance in retrofitting designs Teresa Lovane, <i>Università degli Studi di Napoli Federico II, Italy</i> [333]		15:10 The effects from urban park planning on urban climate change – A case from Xi'an, China, Minye Zhang, <i>Xi'an Jiaotong University, China</i> [354]
15:30 Electricity consumption in highly populated areas increases non-linearly due to climate change but this can be halved by zero-emission buildings Yuya Takane, <i>National Institute of Advanced Industrial Science and Technology, Japan</i> [200]		15:30 Study and Analysis of Land Cover Types in Open Spaces for mitigating the Urban Heat Island Effect (UHI) Dhanashree Mohan Fulsundar, <i>Dr.B.N.College of Architecture, India</i> [368]
15:50 AFTERNOON TEA		
16:20 PARALLEL SESSIONS		
UHI and building performance-energy consumption and indoor comfort Chair: Hideki Takebayashi, <i>Kobe University, Japan</i>	Cooling effect of natural resources (vegetation, lakes, rivers, ground) Chair: Melanie Davern, <i>RMIT University, Australia</i>	Relationship between UHI and urban and city planning Chair: Edward Ng, <i>Chinese University of Hong Kong</i>
<i>Building 80, Level 7, Room 001U</i>	<i>Building 80, Level 7, Room 6</i>	<i>Building 80, Level 7, Room 7</i>
16:20 Comparing the energy performance of spectral-dependent radiative cooling materials through building dynamic simulation Anna Laura Pisello, <i>University of Perugia, Italy</i> [359]	16:20 Examining the impact of Green Infrastructure Types (GITs) on outdoor thermal comfort: The case of City of Adelaide Carlos Bartesaghi-Koc, <i>University of Adelaide, Australia</i> [302]	16:20 Characterizing Thermal Behavior of Pervious All-Road class All-weather Multilayered paver blocks Tanay Sanjay Gham, <i>Indian Institute of Technology Tirupati, India</i> [371]
16:40 Evaluation of Indoor Thermal Environment of Air Well Double Story Terraced House in Malaysia Sheikh Ahmad Zaki, <i>Universiti Teknologi Malaysia</i> [1373]	16:40 Cooling potential and thermal comfort improvement of a semi-enclosed cooling shelter equipped with several thermal mitigation solutions Giulia Ulpiani, <i>Joint Research Centre European Commission, Italy</i> [338]	16:40 Parametric Analysis of Urban Form Variations with City growth and Its Impact on Surface Heat Island Surabhi Mehrotra, <i>Maulana Azad National Institute of Technology Bhopal, India</i> [1384]
17:00 Longitudinal study of summertime overheating in UK social housing dwellings with heat pumps Rajat Gupta, <i>Oxford Brookes University, United Kingdom</i> [402]	17:00 Park Cool Island Effects at Sydney Olympic Park, Australia Sebastian Pfautsch, <i>Western Sydney University, Australia</i> [339]	17:00 Street albedos repartition's effects on urban heat island and outdoor thermal comfort, Matteo Migliari, <i>Ecole des Ponts ParisTech, France</i> [1385]
17:20 Urban Climate and Radiation Conditions for BIPV and Nearly Zero Energy District Design Christophe Menezo, <i>Université Savoie Mont Blanc, France</i> [406]	17:20 Urban Planning Characteristics to Mitigate Climate Change in context of Urban Heat Island Effect in the city of Bangalore, India Minni Sastry, <i>R V College of Architecture, India</i> [1393]	17:20 Design Strategies for Podium Gardens and Street-Level Microclimate Improvement in High-Density Urban Areas Zheng Tan, <i>The Hong Kong Polytechnic University, Hong Kong</i> [386]



TUESDAY, 5 DECEMBER 2023

09:00 | WELCOME

Building 80, Level 7, Room 001U (Lecture Hall)

09:05 | PLENARY SESSION THREE:

KEYNOTE Professor David Karoly, *Climate Council, Australia*

KEYNOTE Professor Anna Laura Pisello, *University of Perugia, Italy*

10:30 | MORNING TEA

11:00 | PARALLEL SESSIONS

Resilient design of buildings in response to climate change

Chair: **Federico Rossi**, *University of Perugia, Italy*

Building 80, Level 7, Room 001U

11:00 | Outdoor human thermal comfort along bike paths in Balneário Camboriú/SC, Brazil: A case study in the summer of 2022

Cassio Arthur Wollmann, *University of Santa Maria, Brazil* [1280]

11:20 | The Modern Adaptation of Traditional Passive Cooling System in Hot Area of China

Yige Li, *Southeast University, China* [286]

11:40 | The impact of albedo on outdoor thermal comfort in contemporary courtyards during summer and winter

Shafaat Ali, *Shahid Beheshti University, Iran* [309]

12:00 | New climatic stress indices and curves to assess building energy demand, retrofit potentials and resilience

Giuseppe Aruta, *Università degli Studi del Sannio, Italy* [322]

12:20 | Cool envelope benefits in future typical weather and heatwave conditions for single-family homes in Los Angeles

Ronnen Levinson, *Lawrence Berkeley National Laboratory, California, United States* [1331]

12:40 | On the Role of Historical Transitional Spaces in Counteracting Urban Heat Island Effect,

Barbara Gherri, *University of Parma, Italy* [1341]

Cool materials, roof, pavement and advance materials developments and characteristics.

Chair: **Sheikh Ahmad Zaki**, *Universiti Teknologi Malaysia*

Building 80, Level 7, Room 6

11:00 | Experimental Investigation of Cool Roof Technology in Buildings: A Case Study of Affordable Housing in Andhra Pradesh

Vishal Garg, *Plaksha University, India* [1277]

11:20 | Research and development attempt of a new type of glass bead retro-reflective material that can reduce the downward reflection for UHI mitigation

Jihui Yuan, *Osaka Metropolitan University, Japan* [282]

11:40 | Natural weathering rack for assessment of solar reflectance degradation of external building coatings

Kelen Almada Dornelles, *Universidade de São Carlos, Brazil* [1297]

12:00 | Clothing Strategies on Thermal Adaptation for Outdoor Summer Heat

Yasuhiro Shimazaki, *Toyohashi University of Technology, Japan* [314]

12:20 | Experimental test of measurement-based procedure for CO2 compensation by albedo

Federico Rossi, *University of Perugia, Italy* [349]

12:40 | Optimal Retro Reflector Acceptance Angles for Application to Building Skins as a Heat Island Countermeasure Based on Climate Data for Japanese Cities

Craig Edward Farnham, *Osaka Metropolitan University, Japan* [361]

Anthropogenic heat and urban pollution/Social and economic dimensions: UHI, Economy, health and well-being

Chair: **Trivess Moore**, *RMIT University, Australia*

Building 80, Level 7, Room 7

11:00 | The effect of district heating and cooling on anthropogenic heat mitigation in the Tokyo metropolitan area

Takahiro Ueno, *Waseda University, Japan* [1287]

11:20 | Impact of increased ambient temperatures due to climate change in human health: evidence from 4 European countries

Sofia Tsemekidi, *Technical University of Crete, Greece* [1316]

11:40 | Developing a fine scale heat health vulnerability index in Australia

Hao Chen, *AURIN, Australia* [320]

12:00 | Cost Benefit Analysis of Various Countermeasures against Urban Heat Island – Evaluation of the Effect on Energy Consumption and Human Health in Osaka Prefecture, Japan

Daisuke Narumi, *Okayama University, Japan* [376]

Workshop – Google Earth Engine

Dr. Chayn Sun, *RMIT University in collaboration with AURIN Australia*

Participants will delve into the cloud-based open-source iGEE tool, a Software as a Service (SaaS) package. This platform will be deployed, enabling users to seamlessly extract Land Surface Temperature (LST) and Land Use/Land Cover (LULC) data from a wealth of satellite imagery on Google Earth Engine. The user-friendly interface requires no coding skills and supports data derivation for large areas at finely-grained scales, with the capability to export results in various formats.

13:00 | LUNCH

13:05 - 13:30 | Citizen Science Discussion, *Building 80, Level 7, Room 9*

Dr. Riccardo Paolini, *University of New South Wales*, and **Dr. Andrew Carre**, *RMIT University*



TUESDAY, 5 DECEMBER 2023		
13:40 WELCOME <i>Building 80, Level 7, Room 001U (Lecture Hall)</i>		
13:45 PLENARY SESSION FOUR: KEYNOTE Associate Professor Joe Hurley, <i>RMIT University, Melbourne</i>		
14:30 PARALLEL SESSIONS		
Industry Workshop – Urban Policy for Placemaking Chair: Associate Professor Joe Hurley, <i>RMIT University, Melbourne</i>	Cooling effect of natural resources (vegetation, lakes, rivers, ground) Chair: Marco Amati, <i>RMIT University, Australia</i>	Machine learning and remote sensing of cities and urban climates Chair: Andrew Carre, <i>RMIT University, Australia</i>
<i>Building 80, Level 7, Room 001U (Lecture Hall)</i>	<i>Building 80, Level 7, Room 6</i>	<i>Building 80, Level 7, Room 7</i>
Renaë Walton , <i>City of Port Phillip, Australia</i> Amanda Dodd , <i>Whittlesea City Council, Australia</i> Rion Casey , <i>Victoria Planning Authority, Australia</i> Krista Milne , <i>City of Melbourne, Australia</i>	14:30 Experimental study of street canyon aspect ratios on the thermal environment and thermal comfort during heat waves using an ideal scale model Hongjie Zhang , <i>Chongqing University, China</i> [272]	14:30 Towards High Spatial-Temporal Resolution of Land Surface and Air Temperature Using Machine Learning and GIS Chayn Sun , <i>RMIT University, Australia</i> [1281]
	14:50 Georeferenced fix and mobile environmental data to assess microclimate change in complex urban areas toward resilient planning, Claudia Fabiani , <i>University of Perugia, Italy</i> [323]	14:50 Evaluating Pedestrian Thermal Comfort using Random Forest algorithm in Nagpur City Meenal Surawar , <i>Visvesvaraya National Institute of Technology, Nagpur, India</i> [1410]
	15:10 Impact of Urban Heat Island on the sustainability of Bangalore and Hyderabad cities in India, Arunab Santhosh Karayil , <i>National Institute of Technology, Trichy, India</i> [324]	15:10 A Time Series Analysis To Explore The Dynamics Of Urban Heat Island Using Earth Observation Data On Google Earth Engine For The Surat Metropolitan Area Pooja Bhavesh Shah , <i>Sardar Vallabhbhai National Institute of Technology, India</i> [292]
	15:30 Evaluating the impact of urban green spaces with the 3-30-300 rule on ambient air quality of Pune City, Sonali Kulkarni , <i>BNCA, India</i> [1337]	15:30 Long term monitoring of urban conditions over Navi Mumbai from thermal infrared remote sensing Anusha Roy , <i>Indian Institute of Technology, Bombay, India</i> [296]
15:50 AFTERNOON TEA		
16:00 - 17:00 NETWORKING <i>Building 80, Level 7, Foyer</i>		
18:30 -23:00 CONFERENCE DINNER , The Terrace, Royal Botanic Gardens, Melbourne corner Alexandra Avenue and Anderson Street, South Yarra VIC 3141 https://maps.app.goo.gl/AXnuKGXMZxqiyJXg7		



WEDNESDAY, 6 DECEMBER 2023

9:00 | WELCOME

Building 80, Level 7, Room 001U (Lecture Hall)

9:05 | PLENARY SESSION FIVE:

KEYNOTE Dr Ronnen Levinson, *Lawrence Berkeley National Laboratory, Berkeley, California*

KEYNOTE Gavin Ashley, *HIP V HYPE, Melbourne*

10:30 | MORNING TEA

11:00 | PARALLEL SESSIONS

Program development, policy, and evaluation of UHI mitigation and adaptation

Chair: Hashem Akbari, *Concordia University, Canada*

Relationship between UHI and urban and city planning

Chair: Sebastian Pfautsch, *Western Sydney University, Australia*

Simulation and analysis of UHI and its effects across scale

Chair: Steve Kardinal Jusuf, *Singapore Institute of Technology, Singapore*

Building 80, Level 7, Room 001U (Lecture Hall)

Building 80, Level 7, Room 6

Building 80, Level 7, Room 7

11:00 | Study on the Thermal Environment in Outdoor Public Space with Mist Spraying

Hideki Takebayashi, *Kobe University, Japan* [1283]

11:00 | Improve building heat evacuation by urban form optimization: the case from Xi'an, China,

Juejun Ge, *Xi'an Jiaotong University, China* [299]

11:00 | Coupling of Urban Microclimate and Building Energy Simulations: Review of the Recent Literature

Liangzhu Leon Wang, *Concordia University, Canada* [1334]

11:20 | A plan to accelerate the climate-appropriate deployment of cool roofs and walls across the United States

Ronnen Levinson, *Lawrence Berkeley National Laboratory, California* [295]

11:20 | Classification of Urban Extreme Heat Zones(UHZs) for Spatial Planning

Kim Hyunsu, *Hanyang University, Korea* [360]

11:20 | Evolutionary design and morphological optimization of urban canyons as a mitigation strategy for urban heat island

Nayeli Montserrat Castrejon-Esparza, *Universidad Autonoma de Baja California, Mexico* [389]

11:40 | Urban heat island mitigation in the Global Covenant of Mayors: insights from over 7500 local actions

Giulia Ulpiani, *Joint Research Centre European Commission, Italy* [305]

11:40 | The impact of urban morphological parameters on the vertical air temperatures in the tropics: a case study in Singapore

Ruohan Xu, *National University of Singapore, Singapore* [1363]

11:40 | Multi-scale modelling at various spatial scales for the assessment of the potential of adaptation measures to mitigate urban heat in future climate conditions

Anastasios Polydoros, *National and Kapodistrian University of Athens, Greece* [390]

12:00 | Public responses to mitigation strategies for urban heat island in Shanghai, China

Wei Yang, *The University of Melbourne, Australia* [1330]

12:00 | An Urban Plug-in Evaporative Cooling Systems to Improve Urban Microclimatic Conditions in Rome

Alessandra Battisti, *University of Rome Sapienza, Italy* [367]

12:00 | Spatial distribution of urban heat islands in the Metropolitan Area of the City of Toluca, Mexico,

Jenny Lizeth Flores Zuñiga, *Universidad Autónoma del Estado de México, Mexico* [1391]

12:20 | Meta-National Database of Buildings in France. Integration of heat-related indicators of French administrative areas

Georgios-Evrystheas M. Kyriakodis, *CSTB, France* [342]

12:20 | Mitigating urban heat through spatial data, good communications, trees and building capacity of local and state government in Adelaide

Sarah White, *Department for Environment & Water, Green Adelaide, Australia* [377]

12:20 | Investigating the aerodynamic role of building geometry towards urban heat island effect in Melbourne's CBD

Cheuk Yin Wai, *Victoria University, Australia* [1404]

12:40 | Development of a Labeling System for Outdoor Cool Spots in Urbanized Areas: A study based on the thermal environment measurement results at bus stops in station squares

Yukina Takayanagi, *Osaka Metropolitan University, Japan* [346]

12:40 | Night-time Natural Ventilation of Internal Thermal Mass to Minimise Daytime Overheating Hours in School Buildings

Wentao Wu, *University of Canterbury, New Zealand* [344]

12:40 | Evaluation of mortality risk reduction potentials of UHI countermeasures considering time-of-day impacts

Kazuki Yamaguchi, *Tokyo Electric Power Company Holdings, Inc., Japan* [127]

13:00 | LUNCH

13:05 - 13:30 | Risky Cities and Deadly Intersections Discussion, *Building 80, Level 7, Room 9*

Ms Margareta Windisch, *RMIT University*, and Ms Emma Bacon, *Sweltering Cities*



WEDNESDAY, 6 DECEMBER 2023

13:40 | WELCOME

Building 80, Level 7, Room 001U (Lecture Hall)

13:45 | KEYNOTE SESSION SIX: KEYNOTE Beth Keddie, *Pollination, Melbourne*

14:30 | PARALLEL SESSIONS

Industry Workshop – Global dilemma, local industry-based solutions Chair: Professor Marco Amati, <i>RMIT University, Melbourne</i>	Cooling effect of natural resources (vegetation, lakes, rivers, ground) Chair: Marcos Eduardo Gonzalez Trevizo, <i>Universidad Autonoma de Baja California, Mexico</i>	Modelling and forecasting urban climate and weather Chair: Vishal Garg, <i>Plaksha University, India</i>
<i>Building 80, Level 7, Room 001U (Lecture Hall)</i>	<i>Building 80, Level 7, Room 6</i>	<i>Building 80, Level 7, Room 7</i>
Cathy Makunga, <i>MACOMA Environmental Technologies, Argentina</i> Mio Nemoto, <i>University of Tokyo, Japan</i> Silvia Tavares, <i>University of Sunshine Coast Australia</i> Lannie McLennen, <i>Texas Tree Foundation, United States</i>	14:30 Native trees: A green coolers to mitigate heat stress in Chennai City Parisutha Rajan, <i>ECOTONE, India</i> [1276] 14:50 Impact of Crops on the Microclimate and PV System Performance Steve Kardinal Jusuf, <i>Singapore Institute of Technology, Singapore</i> [398] 15:10 A Multi-criteria Framework for Climate Change Resilient Street Trees Ehsan Sharifi, <i>The University of Adelaide, Australia</i> [375] 15:30 Cooling arid environments: urban street trees and aspect ratio (H/W) Gladys Adriana Acosta Fernández, <i>Universidad Autonoma de Baja California, Mexico</i> [388]	14:30 Development of the Urban Thermal Simulator and its Validation Yasunobu Ashie, <i>Building Research Institute, Japan</i> [1325] 14:50 Application of an urban building energy modelling framework to study the effects of urban heat island in an Indian city Arunim Anand, <i>Indian Institute of Technology Bombay, India</i> [1332] 15:10 Summer overheating in Mediterranean cities: cooling strategies at the building and urban scale Margherita Mastellone, <i>University of Naples Federico II, Italy</i> [340] 15:30 Green parking - Mitigating surface urban heat island effect of open parking lots: A simulation study in Thalawathugoda, Sri Lanka Umesha Mathugama, <i>University of Moratuwa, Sri Lanka</i> [343]

15:50 | AFTERNOON TEA

16:20 | PARALLEL SESSIONS

Machine learning and remote sensing of cities and urban climates Chair: Andrew Carre, <i>RMIT University, Australia</i>	Social and economic dimensions: UHI, economy, health and well-being Chair: Chair: Michele Zinzi, <i>ENEA National Agency for New Technologies, Italy</i>	Modelling and forecasting urban climate and weather Chair: Hee Joo Poh, <i>Institute of High Performance Computing, A*STAR, Singapore</i>
<i>Building 80, Level 7, Room 001U (Lecture Hall)</i>	<i>Building 80, Level 7, Room 6</i>	<i>Building 80, Level 7, Room 7</i>
16:20 Quantifying the Spatiotemporal Land Surface and Air Temperature Relationship of Greater London using Thermal Earth Observation Stuart Barr, <i>Newcastle University, United Kingdom</i> [318]	16:20 Evaluation of effect of wearing a mask in hot environment on physiological responses during walking, Atsumasa Yoshida, <i>Osaka Metropolitan University, Japan</i> [267]	16:20 Outdoor Thermal Comfort conditions in streets of an urban neighborhood: Evaluating micro-scale model in tropical- composite climate city Surabhi Mehrotra, <i>Maulan Azad National Institute of Technology, India</i> [1357]
16:40 Exploring the spatial heterogeneity of urban heat island effect and its relationship to urban morphology supported by multi-source data for Xi'an, China Yiquan Wang, <i>Xi'an Jiaotong University, China</i> [319]	16:40 A Comparison of Disadvantage and Urban Heat Island Effect In Melbourne, Australia Ben Latham, <i>Victorian Council of Social Service, Australia</i> [288]	16:40 Urban surface characteristics and daytime surface urban heat island effect: new assessment method on the influences of land use patterns and land surface temperature in high-density urban environments, Maoping Wang, <i>The Hongkong Polytechnic University, Hong Kong</i> [1381]
17:00 Novel application of spatial land cover signatures as a predictor of surface temperatures in Perth, Western Australia Bryan Boruff, <i>University of Western Australia, Australia</i> [400]	17:00 Are urban practitioners considering the social and economic dimensions of urban heat islands: a perspective from South Asia Aweek Ghosh, <i>Visvesvaraya National Institute of Technology, India</i> [291]	17:00 Temperature Derating and Photovoltaic Efficiency in Urban Climates: A Case Study of Sydney Metropolitan Region Christophe Menezo, <i>Université Savoie Mont Blanc, France</i> [407]



THURSDAY, 7 DECEMBER 2023

9:00 | WELCOME

Building 80, Level 7, Room 001U (Lecture Hall)

9:05 | PLENARY SESSION SEVEN:

KEYNOTE Candace Jordan, *City of Melbourne*

KEYNOTE Professor Hashem Akbari, *Concordia University, Canada*

10:30 | MORNING TEA

11:00 | PARALLEL SESSIONS

Machine learning and remote sensing of cities and urban climates

Chair: Riccardo Paolini, *University of New South Wales, Australia*

Building 80, Level 7, Room 001U (Lecture Hall)

11:00 | How land development activities alter the intensity of urban heat islands in Greater Melbourne? An investigation through the lens of local climate zones

James Bennie, *RMIT University, Australia* [1321]

11:20 | Green volume or horizontal area, which is more effective in environmental mitigation?

Kenta Iki, *Kansai University, Japan* [1329]

11:40 | The impact of urban land use on the spatio-temporal characteristics of urban heat islands and machine learning prediction: the case of Xi'an City

Zhechen Yu, *Xi'an Jiaotong University, China* [336]

12:00 | Investigating Effects of Land Use/Land Cover Patterns on Land Surface Temperature using GIS and Google Earth Engine in Honiara, Solomon Islands

Chayn Sun, *RMIT University, Australia* [1345]

12:20 | Spatio-temporal inter-comparison of atmospheric and surface urban heat island Effects over Jaipur City using in-situ and remotely sensed data

Aneesh Mathew, *National Institute of Technology, Trichy, India* [1358]

12:40 | UHI Mapping and Assessment for Indian Districts

Chirag Deb, *University of Sydney, Australia* [1379]

Cool materials, roof, pavement and advance materials developments and characteristics

Chair: Elmira Jamei, *Victoria University, Australia*

Building 80, Level 7, Room 6

11:00 | Development and experimental investigation of photovoltaic-thermal collector design,

Miso Jurcevic, *University of Split, Croatia* [304]

11:20 | The Utilisation of Products with Recycled Content in Construction Projects to Combat Urban Heat Island Effects

Salman Shooshtarian, *RMIT University, Australia* [306]

11:40 | Design and testing of adapters for Solar Spectrum reflectometer (ASTM 2 C1549 standard test method) for profiled samples

Alberto Muscio, *University of Modena and Reggio Emilia, Italy* [1374]

12:00 | Prototyping and Testing of an Active Modulating Radiative System with a Bilayer Daytime Radiative Cooler

Djordje Krajcic, *University of Sydney, Australia* [353]

12:20 | Development and testing of novel cool evaporative materials to reduce building cooling loads

Samira Garshasbi, *ARUP, Sydney, Australia* [1398]

12:40 | Development and preliminary testing of self-cleaning cool materials for building and urban applications

Michele Zinzi, *ENEA National Agency for New Technologies, Italy* [401]

Relationship between UHI and urban and city planning

Chair: Nicola Willand, *RMIT University, Australia*

Building 80, Level 7, Room 7

11:00 | Measuring the instantaneous cooling effect of turf irrigation in Melbourne, Australia

Pui Kwan Cheung, *The University of Melbourne, Australia* [311]

11:20 | Investigation of the effect of heat on people's movement in Tokyo during summer using mobile phone location data

Eiko Kumakura, *National Institute for Land and Infrastructure Management, Japan* [1313]

11:40 | Towards the development of a knowledge graph-based decision support framework for Green Building Neighborhoods

Nikos Kampelis, *Technical University of Crete, Greece* [317]

12:00 | Prediction Method Development for Microclimate with the Combined Effects from Urban Morphology and Building Heat Emissions

Yuan Chen, *Xi'an Jiaotong University, China* [335]

12:40 | The relationship between urban microclimate and user behavior of an urban park in the City of São Carlos/SP – Brazil

Kelen Almada Dornelles, *University of São Carlos, Brazil* [1378]

12:40 | Analysis on the effects of spatial pattern of Community Park green space on the double reduction of PM2.5 and CO2 concentration in Xi'an, China

Mengyao Wang, *Chang'an University, China* [350]

13:00 | CLOSING Professor Priya Rajagopalan

Building 80, Level 7, Room 001U (Lecture Hall)

13:30 | LUNCH

14:30 - 16:30 PM | TOUR, CITY OF MELBOURNE

Assemble at: Building 80, Level 2 – Swanston Street Entry Foyer