



**COMFORT AT THE EXTREMES: ENERGY, ECONOMY AND CLIMATE**  
 10<sup>th</sup>-11<sup>th</sup> April 2019 Heriot Watt University, Dubai  
**DRAFT FINAL PROGRAMME**

**Wednesday 10<sup>th</sup> April 2019: Comfort Challenges**

**08:30 Registration**

**09:00 - 11.00 SESSION 1. Comfort & Health Limits: Chair: Susan Roaf**

- 09.05 Welcome speeches
- 09.30 The physiology of comfort at the extremes: Wouter van Marken Lichtenbelt
- 09.55 Global occupied domestic temperatures: A New Comfort Normal Fergus Nicol
- 10.20 The epidemiology of health and mortality at extremes: Alana Hansen
- 10.45 Discussion

**11.00 Coffee**

**11:30 – 13.00 SESSION 2: Exceeding the Limits: Chair: Evangelia Topriska**

- 11.30 Passive survival and resilience planning: US city lessons: Alex Wilson
- 11.55 Heatwave design response in Ahmadabad: Rajan Rawal
- 12.20 Thermal adaptation to the extremely cold climate of Nepal Hom Rijal
- 12.30 Refuge at the extremes: Sukumar Natarajan
- 12.50 Discussion

**13:00 Lunch**

**14.00 - 1600 WORKSHOP SESSION 1**

**Workshop 1: Chairs: Peter Holzer and Philipp Stern**

		Resilient Cooling: Low Energy, Low Carbon & Adaptive Design
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**Workshop 2: Chairs: Wouter van Marken Lichtenbelt and Hannah Pallubinsky**

		Physiology, Health and Comfort: Real Life Challenges at Extremes
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**Workshop 3: Chairs: Rajan Rawal and Fergus Nicol**

		Surviving Street Life in Extreme Climates
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**Workshop 4: Chairs: Matheos Santamouris and Wolfgang Kessling**

		Structures at the Extremes
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**Workshop 5: Chairs: Kathryn Janda and Hom Rijal**

		Well-Being, Health and Air Quality
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16.00 Tea

16.30 – 1800 **Session 3: Tools for the Future:**

**Chair:** Matt Santamouris

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|-------|--|-------------------|
| 16.30 | Adapting building rating schemes for the extremes:           | Dong Chen         |
| 16.55 | Applying adaptive principles: guidance for planning practice | Runa Hellwig      |
| 17.15 | Bahrain Parks: Baseline change for urban resilience          | Joao Pinelo Silva |
| 17.35 | Are Indian buildings really Green? Lessons from POE:         | Rajat Gupta       |

18:00 **Conference Reception –**

19:00 **After-Dinner Talks.**

**Chair: Ammar Kaka**

- 1) *Greening the Buildings of the Gulf*, **Habiba Al Marashi**, co-founder of the Emirates Green Building Council
- 2) *Implications for Construction of Warmer Temperatures in the Gulf –* **Bashar Kassab**  
Facilities Manager of the Burj Khalifa and The Dubai Mall
- 3) *Resilient Cooling: A 21<sup>st</sup> Century Imperative* - **Bjarne Olesen**, President of ASHRAE

## Thursday 11<sup>th</sup> April 2019: Comfort Opportunities

08:30 **Registration**

09:00 - 11:00 **SESSION 4: Radical Comfort Thinking**

**Chair:**

Adrian Pitts

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|-------|--|-------------------|
| 09.05 | Local Climate Change and Urban Mitigation Techniques         | Matt Santamouris  |
| 09.30 | Passive Design in Extreme Climates                           | Pablo La Roche    |
| 09.55 | A paradigm shift in comfort design for Singapore             | Wolfgang Kessling |
| 10.20 | Boosting comfort locally with personal micro-climate systems | Risto Kosonen     |
| 10.45 | Discussion   |                   |
| 11.10 | <b>Coffee</b>  |                   |

11:30 – 13:00 **WORKSHOP SESSION 2**

**Workshop 6: Chairs: Risto Kosonen and Bjarne Olesen**

	Personal & Radiant Systems
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**Workshop 7: Chairs: Grainne McGill and Jessica Aguera**

	Behaviours, Opportunities and Expectations as Thermal Defences
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**Workshop 8: Chairs: Alex Wilson and Runa Hellwig**

	Building Resilient Cities in Extreme Climates
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**Workshop 9: Chairs: Maria Kolokotroni and Ulrike Passe**

	The Role of Natural Ventilation in Future Comfort Design
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**Workshop 10: Chairs: Abdulrahman Alshaikh and Shady Attia**

	Designing Better Buildings in Extremely Hot Climates (1)
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13.00 – 14.00: **Lunch**

14.00 – 15.30 **WORKSHOP SESSION 3**

**Workshop 11: Chairs: Craig Farnham and Adrian Pitts**

	Evaporative Cooling for Hot Buildings and Cities
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**Workshop 12: Chairs: Sukumar Natarajan and Daniel Fosas**

	Thermally Resilient Design for Transitional Refuge Shelters
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**Workshop 13: Chairs: Alana Hansen and Grainne McGill**

	Comfort, Health and Mortality in Real Buildings
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**Workshop 14: Chairs: Ryoko Ooko and Hassam Chaudhry**

	Comfort and Energy Studies for Extreme Climates
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**Workshop 15: Chairs: Samuel Domínguez-Amarillo and Hanan Al-Khatri**

	Designing Better Buildings in Extremely Hot Climates (2)
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- 16.00 – 17.30 SESSION 5: Towards a new Vernacular** **Chair: Rajan Rawal**
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|-------|--|---------------------------|
| 16.00 | Role of Ventilative Cooling in Extreme Climates,         | Maria Kolokotroni         |
| 16.20 | Learning from Building Failures                          | Samuel Dominguez-Amarillo |
| 16.40 | Are Rating Systems Fit for Purpose at the extremes?      | Peter Hickson             |
| 17.00 | Austrian Pavilion in EXPO 2020, Dubai: A New Vernacular? | Peter Holzer              |
| 17.20 | Extreme Design   | Susan Roaf                |
| 17.30 | Session Ends   |                           |
- 17.30 Final Session, Jeff Cook Best Paper Awards and Future Plans:**  
**Chairs:** Sue Roaf and Evangelia Topriska  
**Towards a New Vernacular:** Jeff Cook's Vision **Pablo La Roche**  
**Prize giving + Best Paper Awards**
- 18.00 FREE EVENING TO EXPLORE THE CITY**

## Friday 12<sup>th</sup> April 2019

### WINDCATCHER FIELD TRIP

Half Day Field Trip to a Sustainable Community and to Bastakia, the old Windcatcher Quarter of Dubai with expert guides.

Details of time and bus transfer will be announced near the date.

