

# RWDI Consulting Engineers



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## Available CPD Material (6)



### A Glaring Problem: Controlling Solar Reflections from the Built Environment

This seminar provides an overview of how solar reflections from buildings can negatively impact their neighbours, why solar reflections occur, and how they can be prevented. It will help you to understand the following topics:

- Understand the conditions that can lead to solar reflections that negatively impact the surrounding environment
- Understand the potential hazards associated with uncontrolled solar reflections in an urban context and what circumstances can cause visual glare and solar focusing
- Understand the techniques that can be applied during design to reduce the frequency, intensity and duration of solar reflections
- Understand how to identify building features that may cause problems related to solar reflections
- Understand strategies that have been employed to mitigate solar reflection issues in existing buildings

Please note that a minimum of 10 attendees is required to book this seminar.

Material type:

Seminar

RIBA Core Curriculum:

Design, construction and technology

Knowledge level:

General Awareness



### Wind Related Issues in the Structural and Facade Design of High-Rise Structures

Local wind loads are assessed for component and cladding design. Aerodynamic stability and structural wind loads are assessed for the design of main wind force resisting systems, to mitigate predicted wind-induced motions and other potential issues. This presentation will give an overview of the effects of wind and how architects need to incorporate wind control mitigation in their designs. It will help you to understand the following topics:

- Understand general methodologies included in building codes and standards for the derivation of wind loads and wind effects, and potential limitations
- Understand the aerodynamic and meteorological variables involved in wind engineering
- Understand the potential benefits of alternative modelling and analytical approaches for the derivation of wind loads, resulting in material and cost savings
- Understand the instances when wind tunnel testing for cladding and structural loads would be necessary to design a building for local codes and standards.

Please note that a minimum of 10 attendees is required to book this seminar.

Material type:

Seminar

RIBA Core Curriculum:

Design, construction and technology  
Legal, regulatory and statutory compliance

Knowledge level:

General Awareness



### Stack Effect in Tall Buildings

This presentation will discuss stack effect impacts in tall buildings. Stack effect represents an uncontrolled energy loss and can cause irritating noise, infiltration of humidity or odour, drafts and thermal discomfort. This seminar will increase the awareness of how to control and manage stack effect through passive strategies. It will help you to understand the following topics:

- Understand how to describe the physics that causes stack effect and what it means for the design of sustainable buildings
- Understand how to control the location of the neutral plane, and why this is important for stack effect as well as natural ventilation.
- Understand the role of the ventilation system in managing stack effect impacts and how this affects the overall buildings energy reduction goals
- Understand how to control stack effect and how important this can be, especially how it affects sustainable building goals and energy reduction

Please note that a minimum of 10 attendees is required to book this seminar.

Material type:

Seminar

RIBA Core Curriculum:

**Design, construction and technology**  
**Sustainable architecture**

Knowledge level:

General Awareness

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### Wind and Microclimate Control Features in Building Design

This presentation will discuss the role of microclimate influences, wind, sun, air quality, noise, vibration, etc., on master plans and building concept development. The presentation will identify new technologies and discuss the best way to incorporate engineering studies into the design decision process in a timely fashion. This seminar will help you to understand the following topics:

- Understand wind flows around buildings and how they affect pedestrian comfort and safety
- Understand how to design for a better outdoor wind environment and ultimately for the success of a project
- Understand how the wind environment around buildings can be modelled and assessed using appropriate tools at various design stages
- Understand how a pedestrian wind study can be used to promote more comfortable outdoor environments, create more walkable communities and obtain approvals from local authorities

Please note that a minimum of 10 attendees is required to book this seminar.

Material type:

Seminar

RIBA Core Curriculum:

**Design, construction and technology**  
**Sustainable architecture**

Knowledge level:

General Awareness

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### Supplementary Damping Systems in Tall and Slender Buildings

Architectural daring, efficient design through the use advanced computer software, and the availability of high strength construction materials is resulting in structures that are more lively in response to environmental loads. Two of the principal challenges due to this evolution are reduced occupant comfort and excessive lateral drift. This presentation outlines the importance of damping, both intrinsic to the structural materials and as contributed by a supplementary system. This seminar will go into some detail regarding experience in damping high-rise structures where wind response becomes significant. It will help you to understand the following topics:

- Understand the factors that affect high-rise building acceleration response and the significance of structural damping estimates
- Understand the negative consequences of large accelerations on both the occupants and the structure itself, even when the stress in structural materials is well within acceptable limits
- Understand traditional passive supplementary damping technologies used in structures
- Understand some of the architectural and engineering concessions that are required for the successful implementation of a selection of damper installations

Please note that a minimum of 10 attendees is required to book this seminar.

Material type:

Seminar

RIBA Core Curriculum:

**Design, construction and technology**

Knowledge level:

General Awareness

## Harnessing Climate in Design



Climate is important to everyone involved in designing the built environment, what we do at building scale influences the microclimate at the neighbourhood or masterplan scale of development.

Understanding microclimate is key to creating comfortable, low energy developments. This seminar will help you to understand and learn about the following topics:

- Understand how climate is fundamental to design
- Understand the microclimate interactions between the building scale and the community scale
- Discover tools and techniques for modelling microclimate
- Identify how to harness microclimate to create low-energy, comfortable internal spaces
- Be aware of potential adverse effects of climate and learn how to mitigate them, particularly when working on projects where the climate may be unfamiliar

Please note that a minimum of 10 attendees is required to book this seminar.

Material type:	Seminar
RIBA Core Curriculum:	<b>Design, construction and technology</b> <b>Sustainable architecture</b>
Knowledge level:	General Awareness

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## Classifications

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### Subject/Product Areas (CI/SfB)

#### Environment

Planning, land > General  
Planning, land > Town planning  
Planning, land > Land use planning  
Utilities > General

#### Services

Air conditioning, ventilation > Advisory organisations  
Transport: lifts, escalators, conveyors etc. > Advisory organisations

#### Special activities, requirements

Quality, testing, research organisations > Advisory organisations  
Green applications, resources; sustainability > Renewable energy systems  
Green applications, resources; sustainability > Energy management systems

#### Engineering

Electrical systems > Advisory organisations  
Transport > Advisory organisations

### RIBA Core Curriculum areas

**Design, construction and technology**  
Knowledge level: *General Awareness*

**Legal, regulatory and statutory compliance**  
Knowledge level: *General Awareness*

**Sustainable architecture**  
Knowledge level: *General Awareness*