



EAUC Annual Conference University of Leeds 23 – 25 March 2015

CHALLENGING CONNECTIONS

Incorporating the Student Sustainability Summit, Further Education Sustainability Summit and Transformational Leadership Summit

Exchange B4: The Emerging Science and Style of Biophilic Design: Unlocking Nature's Secrets to Improve Health, Well-being and Effectiveness in Our Learning Environment

Oliver Heath, Biophilic Design Ambassador, Interface, Heath Design Ltd.



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CHALLENGING CONNECTIONS

The Emerging Science and Style of Biophilic Design: Unlocking Nature's Secrets to Improve Health, Well-being and Effectiveness in Our Learning Environments

Oliver Heath
Interface[®]
[@oliver_heath](#)

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**Leadership and
Governance**



Biophilia - humans innate connection with nature



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Image: Michelle Karpman

Savannah Theory



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Savannah theory in practice



**Leadership and
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Image: Michelle Karpman

Biophilic Design Principle 1. Views onto nature



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Governance

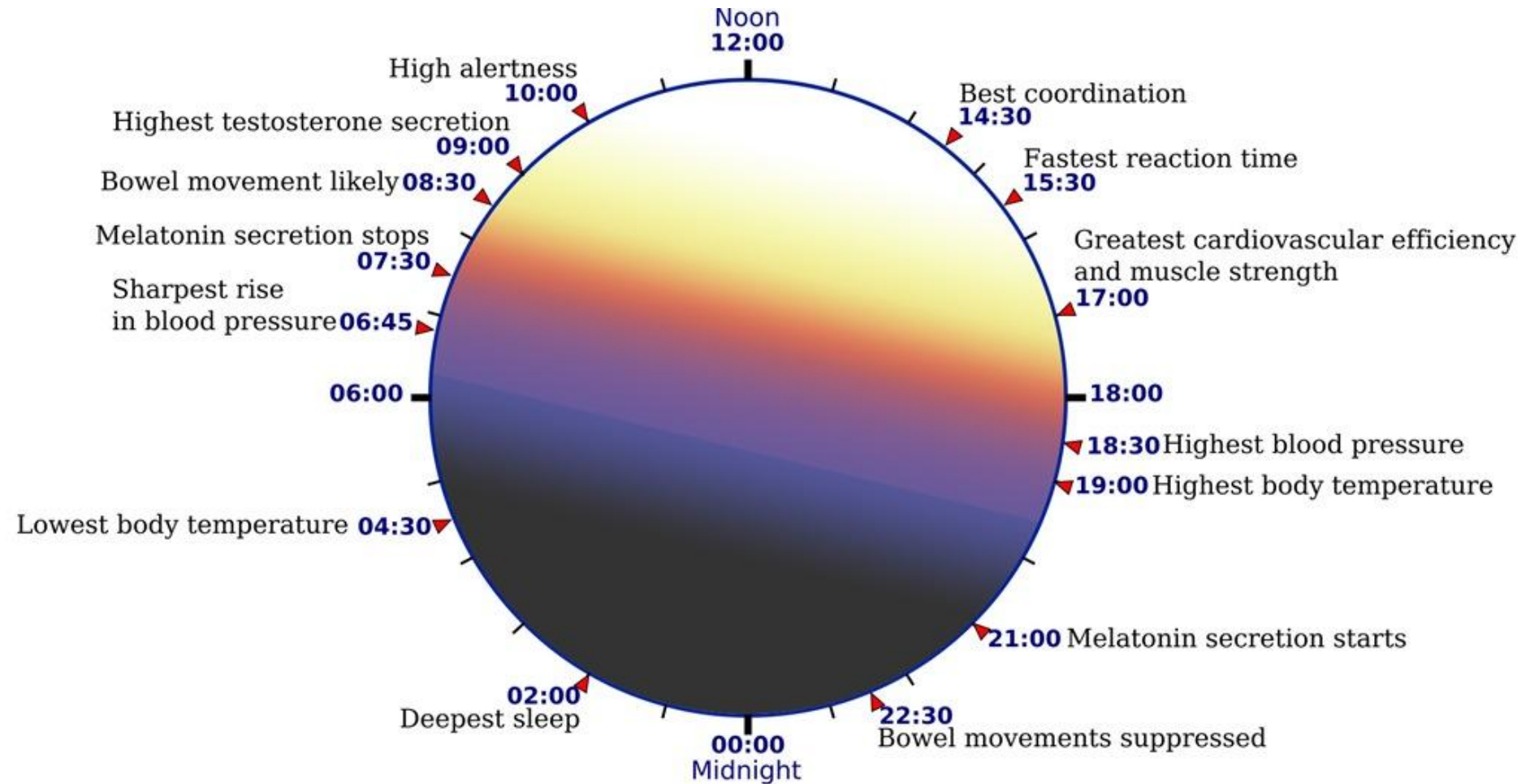


Image: Glen Irani Architects – Hover House 3

Biophilic Design Principle 2. Improve Natural light



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The circadian rhythm – lighting system

Biophilic Design Principle 3. Use natural materials, textures & patterns



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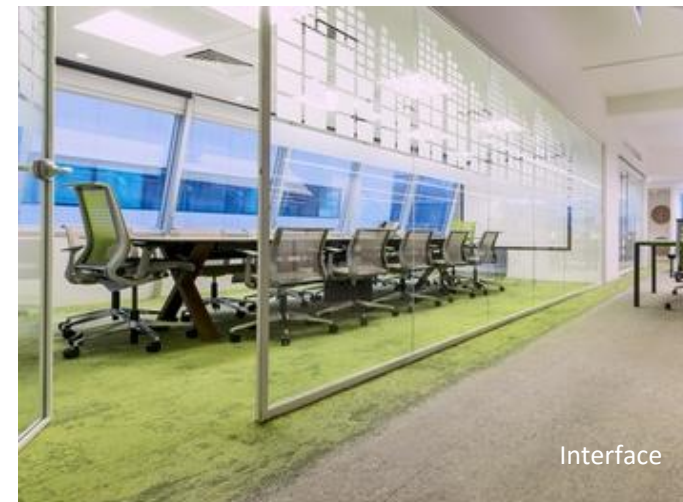


Biophilic Design

Nature mimics



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Biophilic Design Principle 4. Recuperation spaces



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Top: Apple's Campus 2 Foster + Partners
Left: HQ Microsoft Austria INNOCAD Architektur ZT GmbH
Image: Paul Ott

Inspiration

Apple HQ - Cupertino



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Image: Apple Campus 2 Fosters + Partners

Inspiration

Google HQ Mountain View



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Image: Heatherwick Studio, BIG, Google

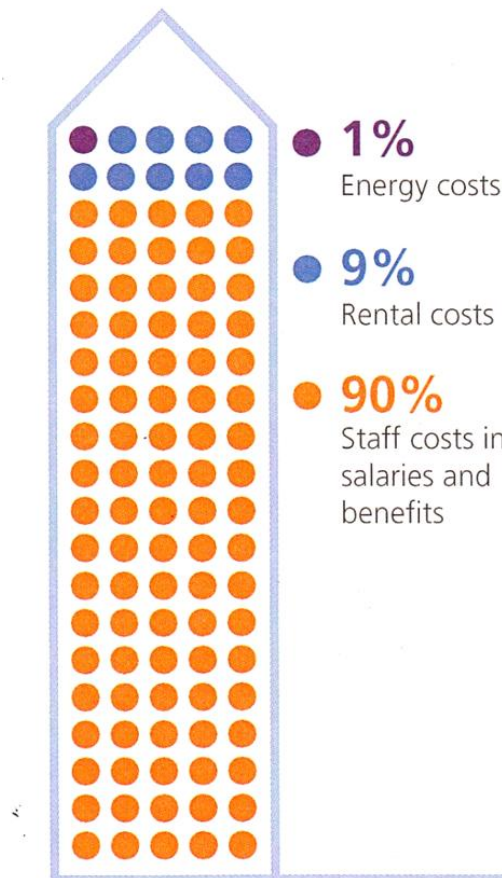
Biophilic design: The business case



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Typical business operating costs¹



10% Variation

A 10% variation applied equally to each cost has a far from equal impact

+/- 0.1%

Energy costs

+/- 0.9%

Rental costs

+/- 9.0%

Staff costs

Biophilic Design in the work place report

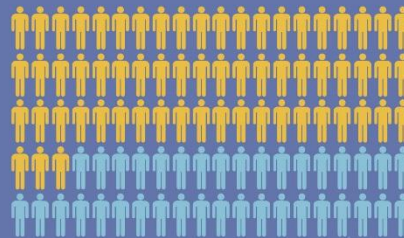


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Human Spaces Report **Biophilic Design in the Workplace**

63%



of European office workers are now
based in either a town or a city centre



In European offices



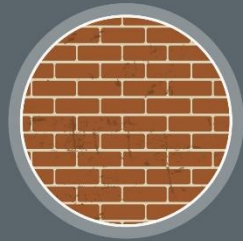
42%

of employees
have no natural light



55%

of employees don't have
access to any greenery



7%

of employees
have no windows

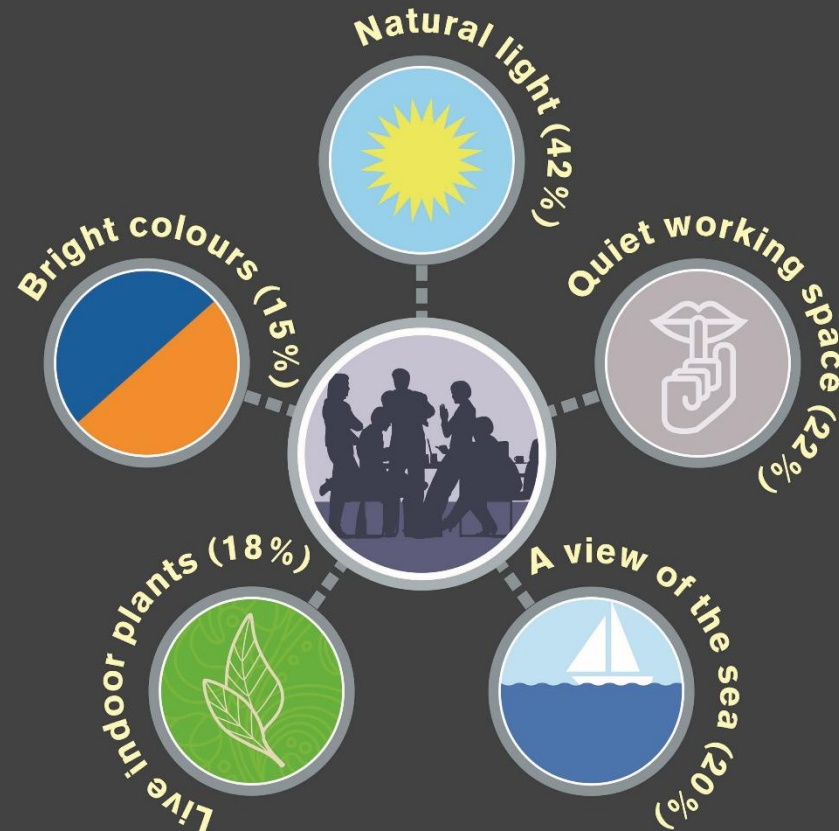
Top 5 office wish list



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Top 5 elements most wanted in the office space



Benefits of Biophilic elements



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European office workers who work in environments with natural elements, such as greenery and sunlight,

report a

13%

higher level
of well-being

and are

8%

more
productive

Report Findings – British Office Motivators



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- Increase Happiness: availability of natural light, natural materials and white surfaces
- Increase Creativity: colours purple and green
- Increase Productivity: plenty of natural light and inclusion of indoor plants

St Mary's school

Jessop and Cook Architects



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Jessop and Cook Architects
Image: Nikhilesh Haval of Nikreations

Biophilic principles in action



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Jessop and Cook Architects
Image: Nikhilesh Haval of Nikcreations

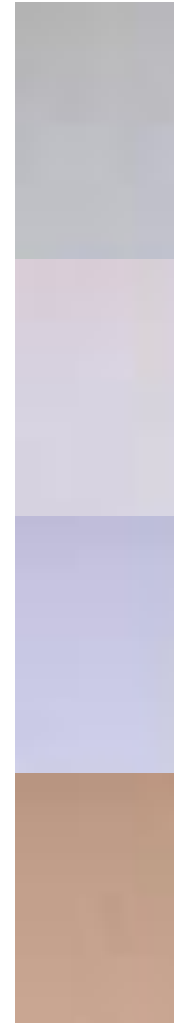
Artificial lighting solutions



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Normal What: Standard intensity level, standard colour tone When: Normal class lesson	
Focus What: Highest intensity level, cool colour tone When: Supports concentration for a test	
Energy What: Higher intensity level, very cool colour tone When: Supports a fresh start of the day (morning) or afternoon (after lunch)	
Calm What: Standard intensity level, warm colour tone When: Supports to calm a class that is too hyperactive	



Views Onto nature



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Incorporating Greenery.



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Learning in nature



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Natural materials, textures and patterns



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Images: Tectoniques Architecture

Recuperation spaces



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Images: Philips lighting

Humanspaces.com

A compendium of biophilic research



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HUMAN SPACES
SPACES DESIGNED WITH THE HUMAN IN MIND

POWERED BY: Interface

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WHAT IS HUMAN SPACES? WATCH THE VIDEO

EXPLORE THE WORLD OF BIOPHILIC DESIGN

Spaces Senses Emotions

FOLLOW HUMAN SPACES Follow @human_spaces RSS FEED

NATURE is continually CHANGING

How to bring an office to life
13 OCTOBER 2014 | 0 COMMENTS | SIR CARY COOPER

We spend so much of our time at work, so it is no surprise that we want our office environment to be attractive and appealing, more than just four clinical walls and a plain desk. The place...

IN THIS ARTICLE: BIOPHILIA | HUMAN SPACES REPORT | OFFICE DESIGN

SEARCH ARTICLES

Human Spaces report
What makes work feel good? Let's explore the role of biophilic design in creating environments that support employee health and well-being.

DOWNLOAD THE REPORT

MOST POPULAR

What workers want from their office space
7 OCTOBER 2014 | 0 COMMENTS

#InterfaceAcoustics: the impo...
Julian Treasure reveals how to improve office acoustics

Interface | Human Spaces | Th...
The three major findings of the Human Spaces report

www.humanspaces.com

Challenging Connections



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- Consider “whole human needs” in learning spaces and offices.
- Create active and recuperative spaces.
- Maximise natural light or circadian lighting systems.
- Improve your view -add greenery and nature where possible.
- Value exterior space to encourage a connection with nature.
- Specify natural materials & textures in new surfaces and finishes.
- Acoustics matter – measure acoustic absorption levels.
- Biophilic spaces can keep students engaged in education.
- Reduced staff absenteeism and productivity staff engaged.