IIPSI is located at the end of Academic Square, making for great views out over the lake. Unfortunately, the south-west orientation is also one of the most tricky to deal with environmentally. It receives direct sun in the afternoon, and at quite low angles. If we simply provided normal windows, the already warm building would get an unwanted extra blast of heat at just the wrong time.

The double wall helps to control the comfort in the offices on the upper levels.

The external louvres are made of solar control glass. These allow views through and a good level of light in, but give a first line of defence against too much solar gain.

The louvres will open to release trapped air when it gets too hot. On cold days, the louvres will stay shut allowing the air behind to warm up. When windows are then opened for ventilation, incoming air will be warmer than the outside temperature.

Before construction started, a species study was undertaken to ascertain the loss in habitat within the footprint of the building and its service yard.

To compensate, the design team worked with an ecologist to provide biodiverse habitats:

- A 190 sqm landscaped roof above the Tech Hall, planted with sedum.
- A new 4400 sqm wild meadow to the north-east of the building.
- Wild meadow planting to screen the chiller compound and service yard.
- Grass left to grow long behind the building to encourage migration of species between habitats.

IIPSI stands on what was once the University’s cricket pitch.

The cricket pitch had to be removed to make way for the building.

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The reason for this is to use the good thermal properties of concrete as a heat sink to regulate the temperature in the building, to absorb heat as the building heats up, and to release it slowly at night.

The office spaces are naturally ventilated. People feel better when they can control their own environment. In IIPSI, you just open or close your window and raise or lower your blind.

In the meeting spaces on the first floor, where large numbers of people may suddenly arrive, a mixed-mode environment is used. Windows can still be opened manually, but extra background ventilation is provided through vents in the floor.

Light colours are used throughout the working spaces, including on the blinds to minimise the need for artificial lighting in daylight hours.

IIPSI is linked into the University’s district heating and district cooling mains.

The hot water that drives this system is the waste product of electricity production from the combined heat and power plant (CHP) beside the university gatehouse. IIPSI also has its own back-up high efficiency chillers to help cool the meeting rooms and servers if necessary.

This strategy, alongside a highly insulated, high performance building envelope, gives the building a very low energy requirement for heating, lighting and ventilation. IIPSI has an A-rated energy performance certificate, and is rated ‘excellent’ on the Building Research Establishment Environmental Assessment Method (BREEAM).

The University is currently in the process of upgrading its CHP system, and plans to generate all its heat and power needs on campus in the near future.