

MOLECULAR BIOLOGY
INSTITUTE, DRESDEN, GERMANY
ARCHITECT
HEIKKINEN-KOMONEN

Biotechnology is one of the two specialist fields (the other being microelectronics), on which Dresden is rebuilding its post-1989 economy. The Max Planck Institute (MPI) has assumed a leading role in 'Biopolis Dresden' by founding a new international molecular cell biology and genetic research centre. A made-to-measure building solution was speedily agreed on when a promising group of scientists threatened to move to a city more sensitive to their needs. Dresden's hospital handed over a site they had reserved for their future extension and the usual architectural competition process was dispensed with. The Finnish practice Heikkinen-Komonen were commissioned as architects, working with Munich-based HENN Architekten for their expertise on highly serviced buildings.

The new research institute is a post-genomic era organization operating in a global context. Over 300 scientists from 26 countries work in 25 groups mapping out cell biology. Geographically, Dresden is a convenient central European meeting point and the building site, between university medical faculty and hospital, was chosen to maximize multi-disciplinary contacts. This is Germany, but the language of scientific exchange is English.

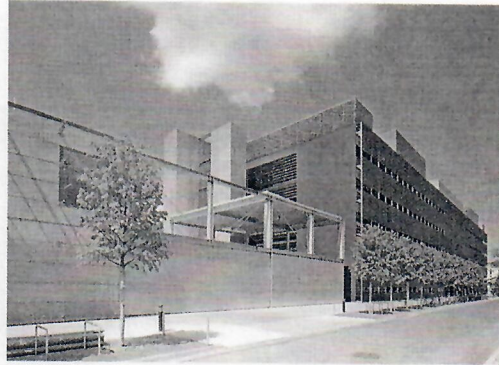
For Dresden, with its reputation for resisting contemporary architecture, Heikkinen-Komonen's pragmatic geometry, Yves Klein blue aluminium cladding, climate-ameliorating veil of green metal mesh and minimalist details are a novelty. A minor architectural revolution has taken place without comment, perhaps because the site is not

among the Baroque chain of churches and palaces on the Elbe terraces, but in the less prominent suburb of Johannstadt.

A linear tract contains 9600 sqm of usable space split between three buildings. The laboratory block is the largest. Two geometrical statements, a spiral stairway in a tube of perforated steel and a column of seminar rooms, rise through the full-height reception foyer. Bridges of immaculate fair-faced concrete connect two laboratory wings. A library and 300 seat auditorium open off the foyer which also contains a café and restaurant leading out to a garden terrace. In contrast to the functional laboratory 'homebases', each the domain of a professor and his team, every opportunity is taken to provide spaces and places where staff linger longer for productive discussion, informal

FUNCTIONAL BIOLOGY

Providing an open forum for a closed scientific community, this new research institute in Dresden civilizes its large scale by inventive use of materials and light.



- 1 The bulk of the long, linear building is sheathed in a veil of metal mesh.
- 2 Laboratory building is one of three buildings that make up the institute.
- 3 Entrance to the main laboratory building is festively marked by a tensile canopy portico.

Architectural review
Aug 2002



encounters and relaxation. During the recent World Cup, the auditorium screened games and in the roof-top pergola, smokers gathered for match post mortems and to contemplate the river view.

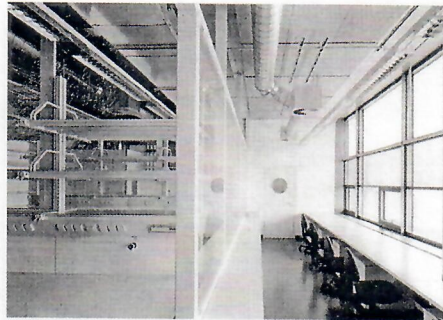
The second block is a windowless building containing various controlled environments for animals, fly breeding and hatcheries. The third block, housing human visitors in hotel style bedsits and extra offices for the institute, has been divided into two terraces facing each other across a Japanese gravel garden. A horizontal timber screen runs across the two terrace gables to create a measure of privacy and sustain the illusion of a single structure.

Architectural clarity is deceptive. Complex inner workings maintain several climatic zones. Heating is supplied from a district circuit but ventilation needs are individually designed and must be segregated. Laboratory effluents are tested for their pH value before being released into the sewage system.

Hazardous wastes are stored in tanks before being collected for processing. Perimeter circuits, for water, steam, and gas supplies, allow for flexible laboratory replanning and there are no suspended ceilings, to simplify maintenance. An in-house power station provides steam for sterilizers and humidifiers and an emergency system maintains experiments, saves data, and runs safety functions. Sensitive reconciling the dichotomy of universal scientific knowledge with the secrecy required to protect patents worth millions, Heikkinen-Komonen's building provides an open forum for a closed community.

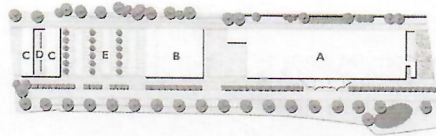
LAYLA DAWSON

Architect
Heikkinen-Komonen Architects, Helsinki
Associate architect
HENN Architekten
Structural engineer
G. Scholz + Partner
Services engineer
Jaeger, Mornhinweg + Partner
Landscape architect
Petzold
Photographs
Jussi Tiainen



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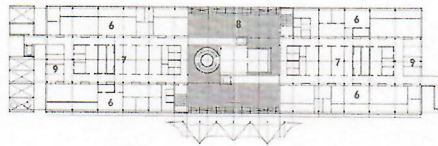
- A laboratory building
- B breeding and hatchery building
- C residential accommodation
- D Japanese garden
- E parking



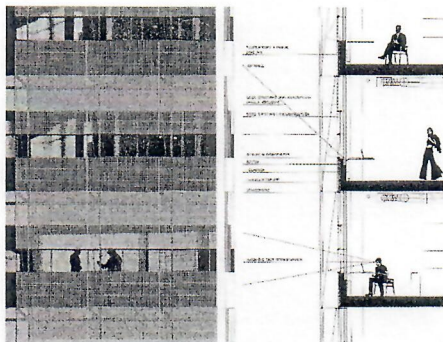
site plan

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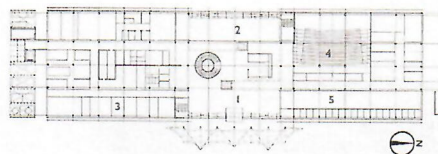
- 1 entrance hall
- 2 canteen
- 3 offices
- 4 auditorium
- 5 library
- 6 homebase laboratories
- 7 internal rooms
- 8 informal spaces
- 9 meeting rooms



first floor plan of laboratory building



54 | 8 detailed wall section through laboratory building



ground floor plan of laboratory building (scale approx 1:2000)

- 4 Typical laboratory.
- 5 The use of metal mesh is reprised on the ceremonial staircase drum.
- 6 Luminous entrance hall.
- 7 Bridges connect laboratory wings, overlooking spaces for interaction.
- 8 Staff canteen.

