

Welcome - we are delighted you are attending the event today.

Set in the heart of the University's Science Area, the Tinbergen Building was designed by Sir Leslie Martin and built in 1970. It houses research and teaching for two internationally acclaimed bioscience departments: the Department of Zoology and the Department of Experimental Psychology. It also currently accommodates teaching laboratories for the Department of Biochemistry and its three auditoriums frequently host lectures and seminars attended by the broader University.

Both the Departments of Zoology and Experimental Psychology consider their current space allocations are at capacity and require solutions to enable their facilities to expand to meet their 2017 and 2020 growth expectations.

The University of Oxford's Department of Chemistry is one of the world's largest and most successful research and teaching departments. Hands-on practical work is a crucial element of the undergraduate Chemistry course, and the University is seeking additional space for its Chemistry teaching laboratories in order to provide state-of-the-art facilities for its students.

To that end, the University of Oxford will be submitting a planning application to Oxford City Council for a two storey extension on the southern end of the Tinbergen Building to provide this additional space. The development will also require the demolition of several disused outbuildings to the rear and one "pod" on Level F (fourth floor) to the front of the building. The University is seeking to undertake this work during the summer.

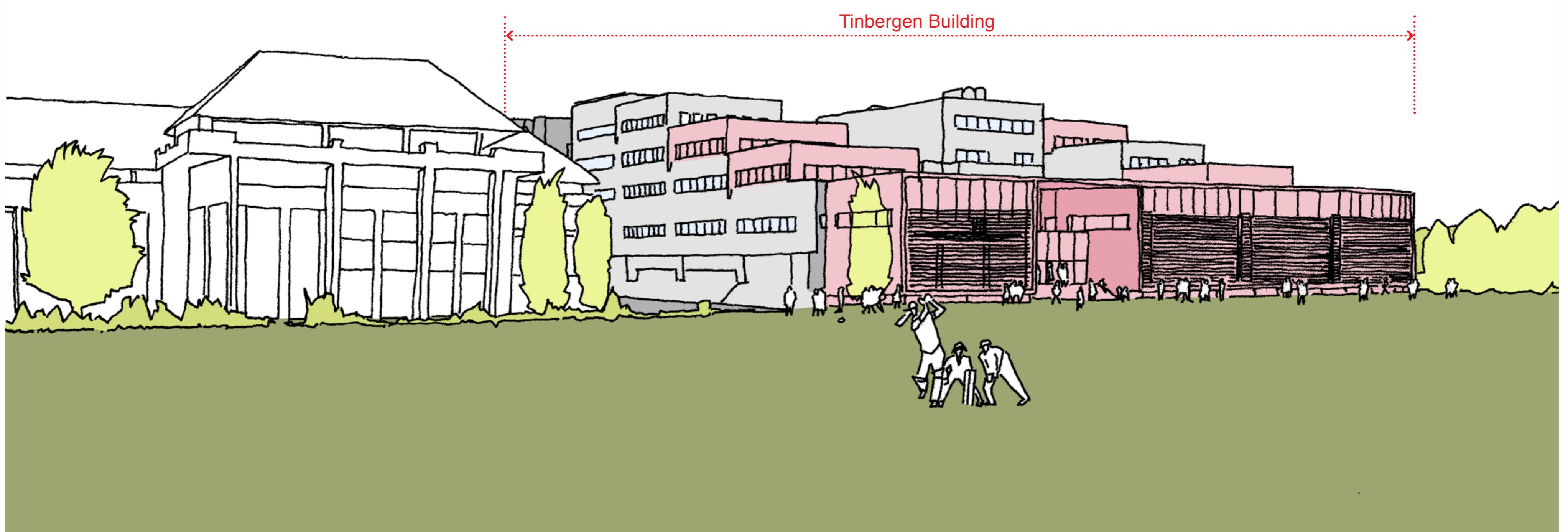
The University is also taking the opportunity with this application to undertake internal refurbishment of the Tinbergen Building. It intends to replace some of the existing 'pods' that provide the stepped profile of the building with the addition of new pods to create further accommodation and to reflect the original design concept of the building.

This exhibition includes the principles of the design, the site location and context, the proposed uses, justification for the refurbishment and extension, landscaping, sustainability and transport.

We are inviting you to view the proposals and to talk with members of the team who are available to answer any queries you might have.

There is a feedback form which we would be grateful if you would complete and submit to us either in hard copy or online at [public.consultation@admin.ox.ac.uk](mailto:public.consultation@admin.ox.ac.uk) by 3 August 2015.

Thank you for attending.



South West view of the Tinbergen Building and the proposed extensions



The improvements to the Tinbergen Building will allow four departments to be housed in the building.

The shared interactive hub, connecting the Tinbergen Building from North to South through a central corridor, will offer an environment for study and interaction, with purpose designed spaces bringing together students from different disciplines. This enhanced environment will be beneficial for the conferences, symposia and other knowledge and research sharing events that take place in the building.

## Chemistry

The Department of Chemistry is one of the world's largest and most successful research departments, birthplace of the lithium-ion battery and the glucose sensor, and home to Nobel-prize winning research on chemical reaction rates, radioactivity, organic synthesis, and the structure of penicillin.

The new Tinbergen chemistry teaching laboratories will house the practical component of the undergraduate course. The aim of this 'hands-on' section of the course is to equip students with practical skills and problem solving abilities. Courses are updated regularly to ensure that experiments illustrate real-world applications of chemistry and that students are familiar with state-of-the-art equipment.

In 2016 the Department of Chemistry will celebrate two important anniversaries: the centenary of the opening of the Dyson-Perrins Laboratory, one of the first custom-built chemistry laboratories in the UK; and the inauguration of its unique 'Part II' research year, during which undergraduates spend an entire year working within a research group on a project at the forefront of chemistry. To mark these anniversaries, the Tinbergen chemistry labs will provide a suite of custom-designed undergraduate laboratories suited to 21st century science.

## Experimental Psychology

Changes to the Tinbergen Building will enable Experimental Psychology to create a new research centre in Translational Cognitive Neuroscience. The centre will use state-of-the-art facilities to both measure and change ongoing brain activity using high density brain stimulation equipment. It will also undertake basic research in cognitive neuroscience in a more 'translational' direction – for example, developing 'phenotypes' for cognitive change in dementia, enhancing brain plasticity in learning, developing new biofeedback and computer-brain interface procedures for use in a wide range of psychological disorders.

The centre will bring together ten research groups in new collaborations that will add value to existing work in the department, complementing recent patient-based facilities established for work with stroke patients and individuals with anxiety disorders.

## Zoology

Founded in 1860, and housed in the Tinbergen Building since 1971, the Department now undertakes research right across a broad spectrum of biology.

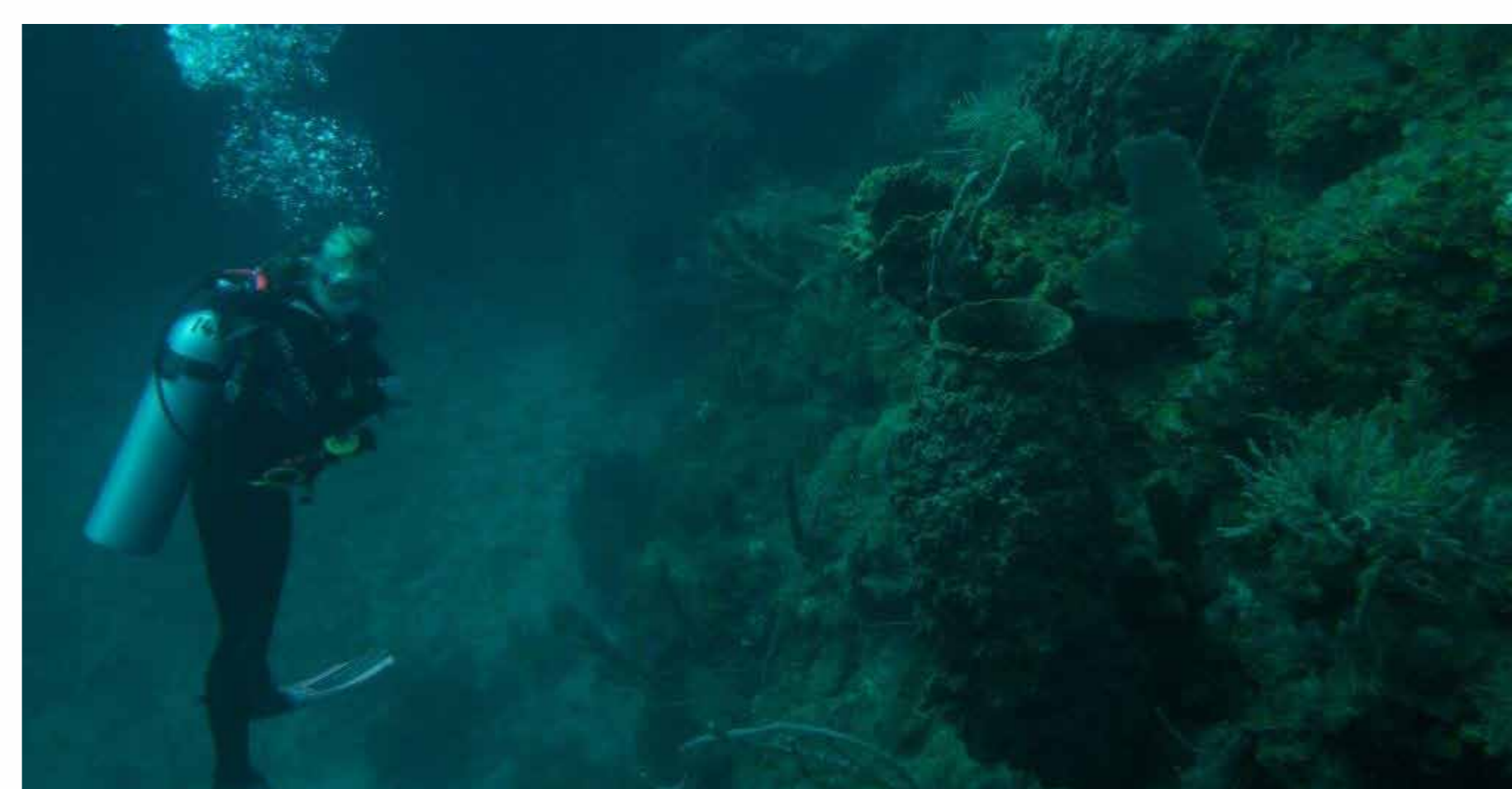
Research and teaching in the Department of Zoology has wide applications to society, with current research on relevance to wildlife and ecosystem conservation, animal welfare, biology-inspired engineering (notably aeronautical design), human health and disease.

Building new teaching laboratories for chemistry will necessitate a re-organisation of the research infrastructure in Zoology, including building new space for a research group focussed on wildlife conservation and human-wildlife conflict, facilities for studying animal flight, and laboratory space to integrate medically-important work on genomes and development.

## Biochemistry

The Biochemistry Department has had a teaching laboratory in the Tinbergen Building since September 2005. Since then, practical classes for undergraduates have taken place in a dedicated space next door to the Biological Sciences teaching labs. Although the courses are run independently, the move has allowed sharing of equipment and facilities.

The changes to the Tinbergen Building will offer new opportunities for collaboration and will be a rich addition to the teaching and outreach activities already carried out by Biology, Experimental Psychology, Medicine, Human Sciences, Biomedical Sciences, Biochemistry and Oncology.





The Tinbergen Building is situated in a prominent location in the Science Area at the junction of South Parks Road and St Cross Road.

The building is named after Nikolaas Tinbergen, a former academic at the University and, a joint recipient of the 1973 Nobel Prize for Physiology or Medicine. Designed by Sir Leslie Martin in 1965 and completed in 1970 it represents a building type from an important period in architecture. The poured and pre-cast concrete building has a rectangular plan consisting of two symmetrical wings of three interconnected "fingers" that are stepped back toward its summit.

Previous planning applications have resulted in extensions to the building through which many of the original characteristics have been obscured. This is the first time an opportunity has arisen to enable modifications to be made in a holistic way using a design response that draws cues from the original building and re-establishes some of the key design principles originally set out by Sir Leslie Martin.

The Tinbergen Building is home to the Departments of Zoology and Experimental Psychology. It also currently accommodates teaching laboratories for the Department of Biochemistry, and its three auditoria frequently host lectures and seminars attended by the broader University. Both the Departments of Zoology and Experimental Psychology consider their current space allocations are at capacity and require solutions to enable their facilities to expand to meet their 2017 and 2020 growth expectations.



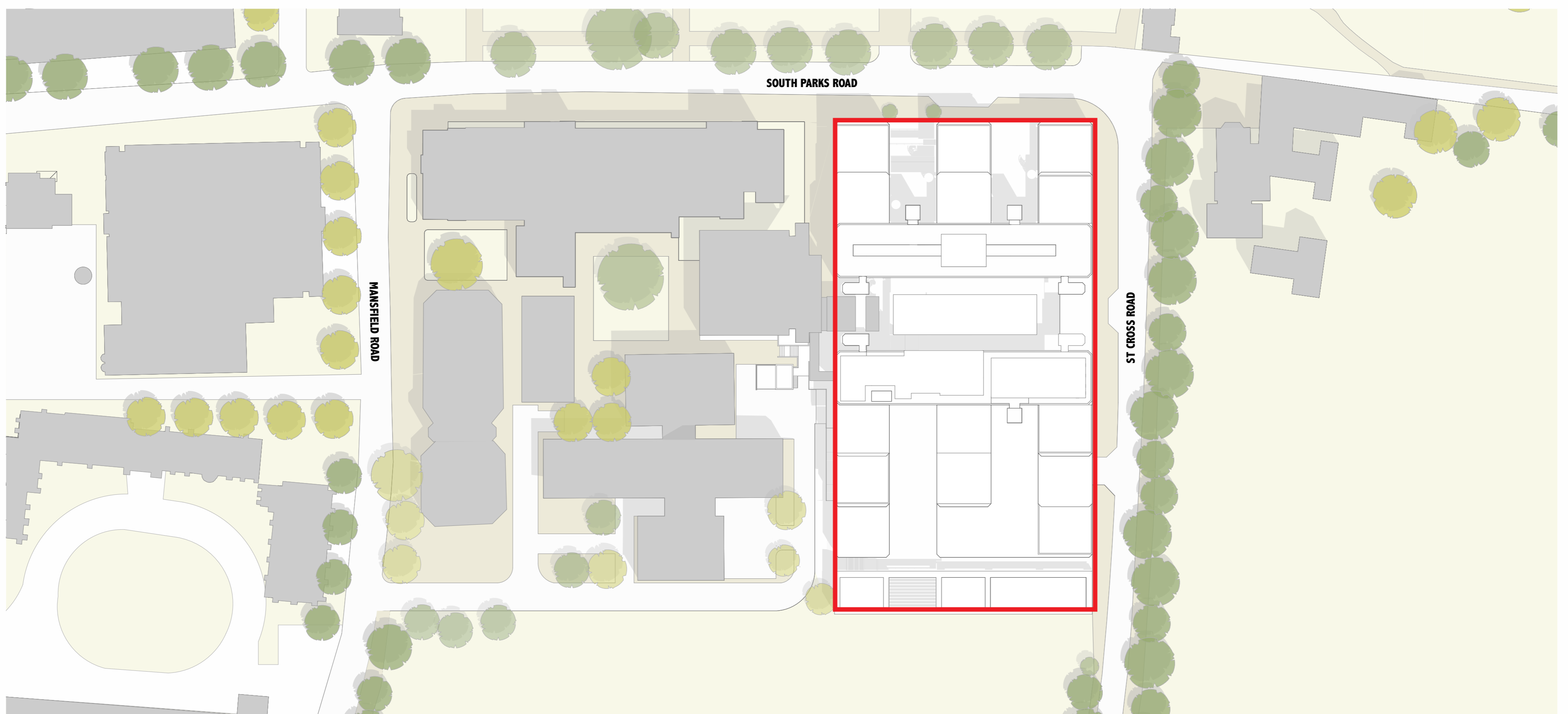
Aerial photograph of the Science Area and Tinbergen Building



Photograph of the original building in 1970



Photograph of the building in its current condition



Tinbergen Building proposed site plan





The proposal for the building consists of four main elements:

## Level B Shared Interactive Hub:

Refurbishment of the existing Level B to provide a new consolidated building entrance and new undergraduate shared interactive, social and learning hub. Associated external improvements include enhanced bicycle facilities and vehicle lay-bys.

## New Chemistry Teaching Laboratory:

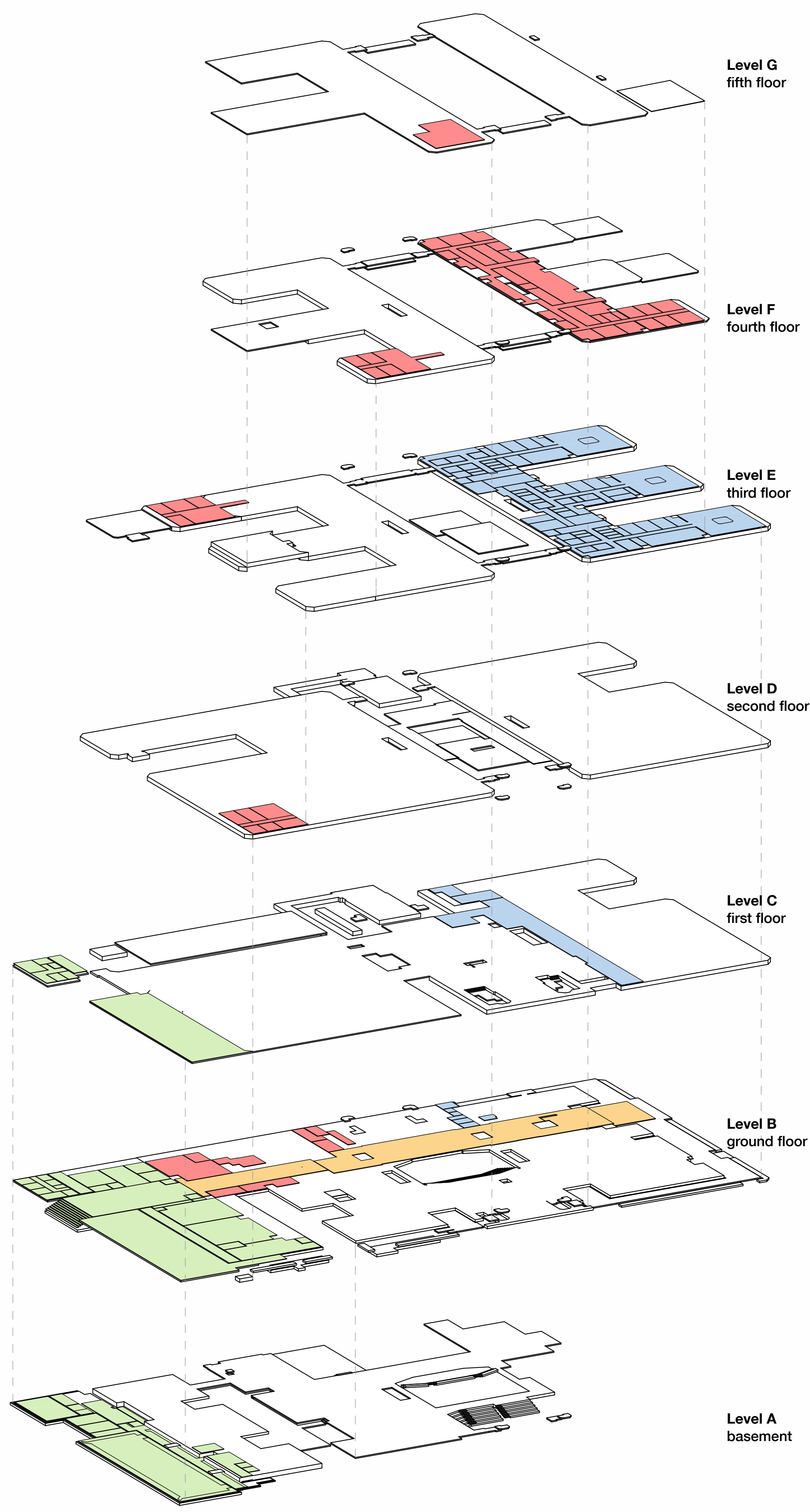
A new extension to provide teaching laboratories and associated support functions and offices for chemistry.

## New Experimental Psychology Level E Translational Cognitive Neuroscience:

Refurbishment and extension of Level E North to provide Experimental Psychology with a new Translational Cognitive Neuroscience Centre allowing an opportunity for existing spaces to be reconfigured to meet growth to October 2020.

## New Zoology Level F Developmental Biology:

Refurbishment and extension of Level F North to provide Zoology with a consolidated Developmental Biology space, and the provision of pod extensions to Levels D, E and F to accommodate space for Chemistry and the Shared Interactive Hub on Level B.



Proposed Tinbergen Building extension



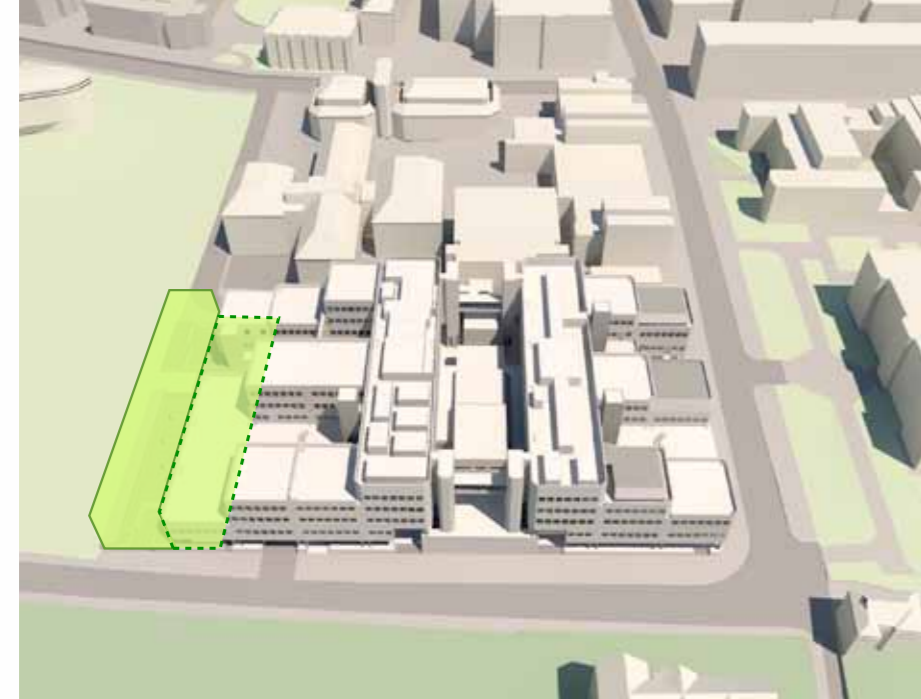
Proposed Tinbergen Building extension highlighted



Level B Shared Interactive Hub



New Experimental Psychology Level E Cognitive Neuroscience



New Chemistry Teaching Laboratory



New Zoology Level F Developmental Biology and pod extensions:

**Tinbergen Building diagram**  
The above diagram shows the allocation and distribution of new and additional spaces for each department as well as the shared interactive hub.

- Existing area remains unchanged
- Level B Shared Interactive Hub
- Chemistry
- Experimental Psychology
- Zoology
- Pods for future growth



## Teaching

Oxford Chemistry offers world-class teaching, consistently rated among the best in the UK. Students study a four-year M.Chem. course, a unique feature of which is spending their final year working full-time on a project with some of the leading researchers in the UK.

The new Tinbergen chemistry teaching laboratories will house the practical component of the undergraduate course. The aim of the practical course is to ensure that students are able to perform a chemical investigation accurately, safely and efficiently, so that by the end of the course they are ready to work in a chemical research laboratory.

The practical course teaches the essential experimental skills, from the synthesis and characterisation of compounds to the operation of spectrometers and other instruments for physicochemical measurements. Students also gain experience in computer applications and chemistry software packages, including structure drawing and molecular modelling. In addition to honing students' experimental skills, the practical course also makes tangible much of the material covered in lectures and tutorials

## Outreach

The chemistry teaching labs are not only used by the undergraduate students but also extensively by Oxford Chemistry's outreach team.

Scientific knowledge underpins many aspects of everyday life. Oxford Chemistry's outreach team aims to make science exciting, understandable, and relevant to the general public in an attempt to encourage more people to take an interest in chemistry and to encourage more students to study the subject beyond secondary school.

The outreach team works with schools and colleges from across the UK to promote and teach chemistry to students of all ages. It regularly presents demonstration lectures, energetic and exciting displays of chemistry illustrating phenomena such as catalysis, temperature change, and the effect of carbon dioxide on the environment. Other more specialised lectures run throughout the year, aimed at a variety of different age groups and audiences, from primary schools to the general public. Many school groups visit the department to take part in masterclasses, tours, and open days. A wide range of fun and challenging practical activities have already been enjoyed by thousands of visiting students from hundreds of schools.

The team supports teachers in raising aspirations and inspiring the next generation of chemists, and aims to grow the outreach programme. The new Tinbergen chemistry labs will enhance the ability to offer high quality outreach activities to schools, providing state-of-the-art facilities and increasing capacity.



Chemistry teaching laboratory on Level B

## Funding

The University received £5m from HEFCE which was part of a £200m Government investment STEM (Science, Technology, Engineering and Mathematics) teaching capital funding designed to:

- provide new or upgraded STEM teaching facilities to meet increased demand for STEM provision
- support an increased flow of STEM graduates into the industries that underpin the Government's Industrial Strategy aims
- support the Government's aim of a wider and more representative student population across subjects.



Consolidating three teaching laboratories into a single, state-of-the-art facility will allow Oxford Chemistry to overhaul the curriculum. New experiments, designed in collaboration with key company partners, will make the course more directly relevant to industry and enhance the skills and employability of our graduates. The department will be able to provide purpose-built facilities for disabled students, such as height-adjustable lab benches and fume cupboards for wheelchair users.



Chemistry outreach programme

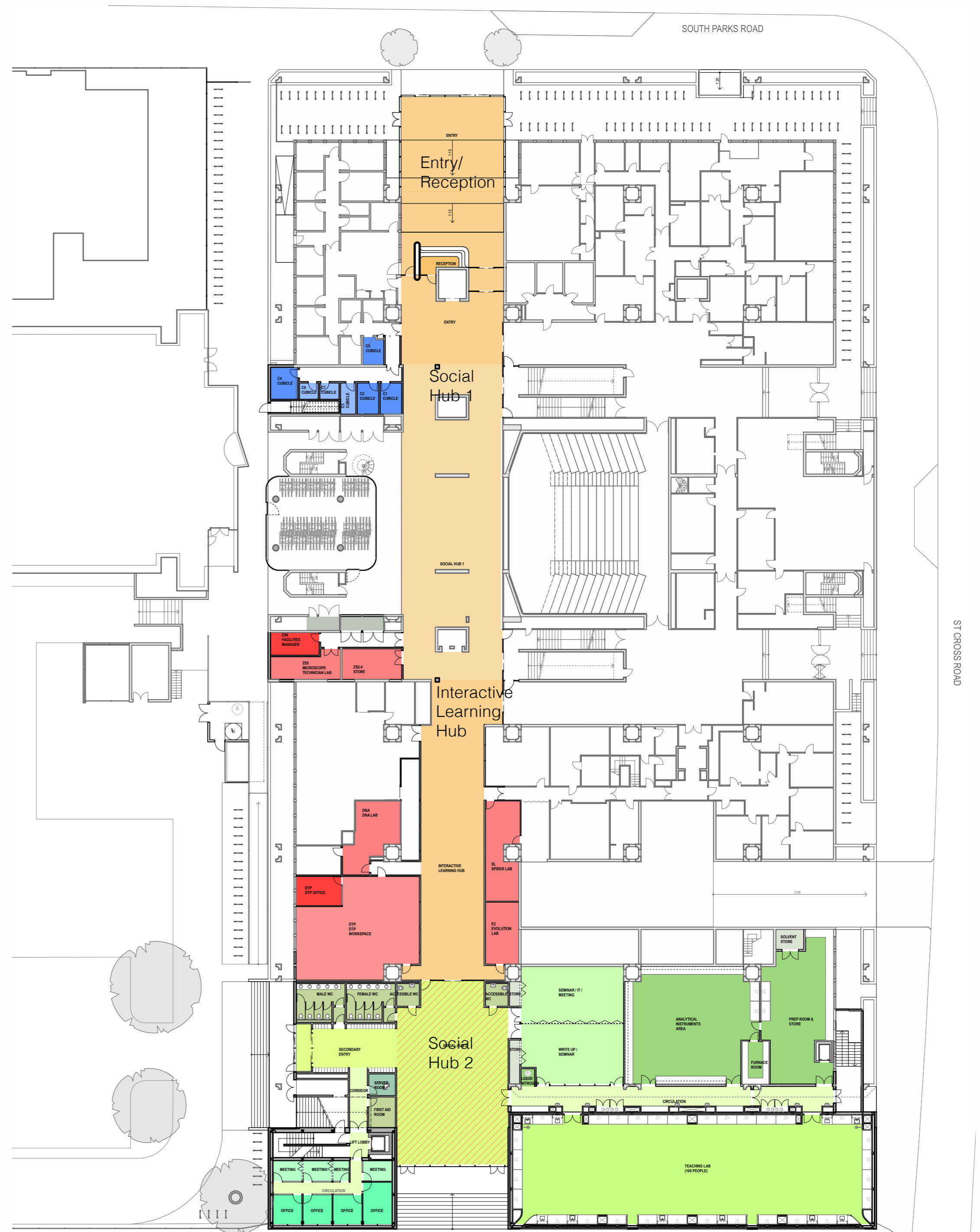


The Tinbergen project consists of four connected and interrelated components:

1. The proposal for a new build extension to provide teaching laboratories for the Department of Chemistry.
2. The consolidation of the Zoology and Experimental Psychology Departments within the existing building.
3. Improving the use of the existing building, unlocking the potential for the existing departments to benefit from the flexibility of growth the building can offer.
4. Consolidating and co-locating undergraduate teaching in Physical and Life Sciences via the development and refurbishment of areas of the existing building to provide an integrated and interdisciplinary undergraduate teaching hub with the following aspirations:
  - to upgrade the current facilities and improve access;
  - to provide an inclusive and integrated teaching experience;
  - to provide an interconnected sustainable, state-of -the-art facility that is fully DDA (Disability Discrimination Act) compliant;
  - to improve utilisation and demonstrate the University's commitment to maintaining a high quality student experience accessible and usable by all.



Proposed chemistry and social hub layout



Level B plan

- Shared Interactive Hub
- Chemistry
- Experimental Psychology
- Zoology
- Existing area remains unchanged

## Shared Interactive Hub

Refurbishment of existing Level B to provide a new consolidated building entry and new undergraduate shared interactive, social and learning hub. To return to some of the building's original character as a vibrant and active undergraduate hub.

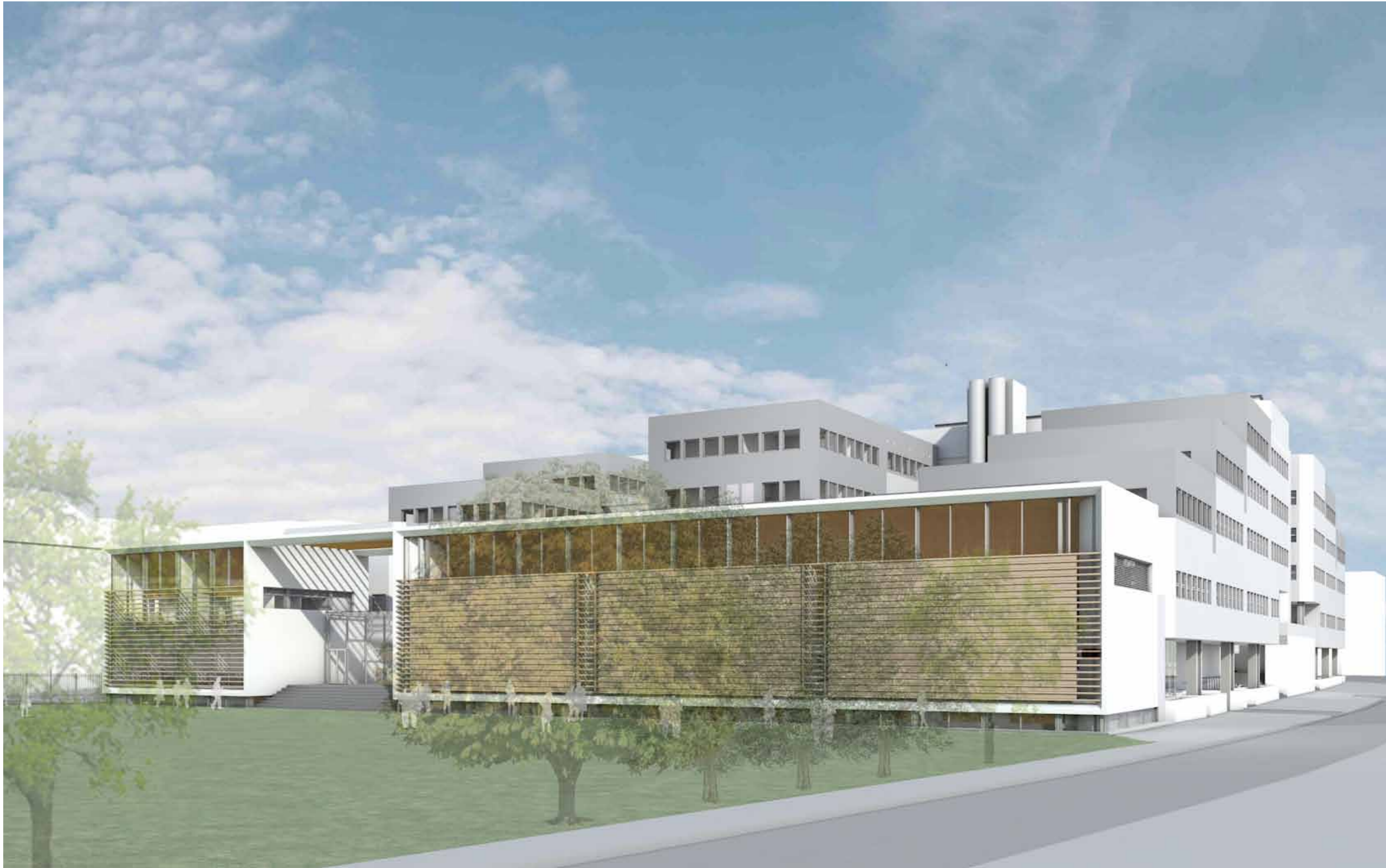
Level B Shared Interactive Hub consists of four interconnected and related sequence of spaces which are themed and configured to facilitate different types of activities and functions:

- Entry/Reception off South Parks Road
- Social Hub 1
- Interactive Learning Hub
- Social Hub 2



Social hub 2





South East view of the Tinbergen Building and the proposed extension



Photograph of the original building in 1970



View from St Cross Road of the existing newer "rectangular" pods



View from South Parks Road of the existing older "Mansard Roof" pods

Since its completion in 1970 the Tinbergen Building has undergone various building expansions.

As these were largely driven by the internal spatial requirements, the pod extensions were not necessarily in keeping with the overall composition and form of the original building.

This development takes the opportunity to formulate a holistic strategy for the location of new pods to meet the following objectives:

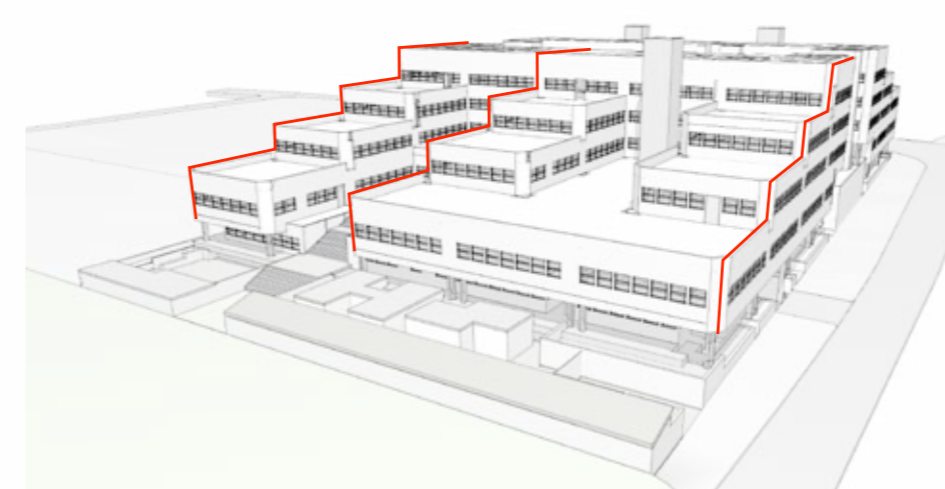
- re-establish the stepped profile of the original building;
- re-establish the symmetry of the original building form;
- re-establish the uniform street edge alignment of the original building along South Parks Road;
- re-establish the floor plan symmetry of the building wings and arrangement of "fingers".

The strategy for the pod extensions is as proposed:

- rationalise the number of different pods by having all the new and refurbished pods match the existing newer rectangular pod design;
- refurbish/replace the non fit for purpose pods.

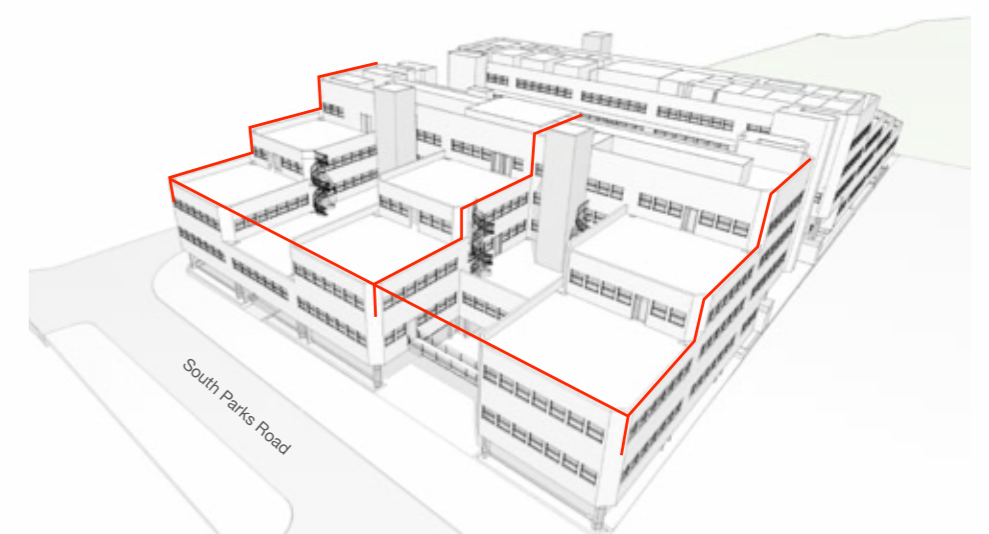
It is proposed that the 11 replaced and new pods will be located in a manner that re-establishes the stepped profile and symmetrical arrangement of the original Sir Leslie Martin building form.

South East view:

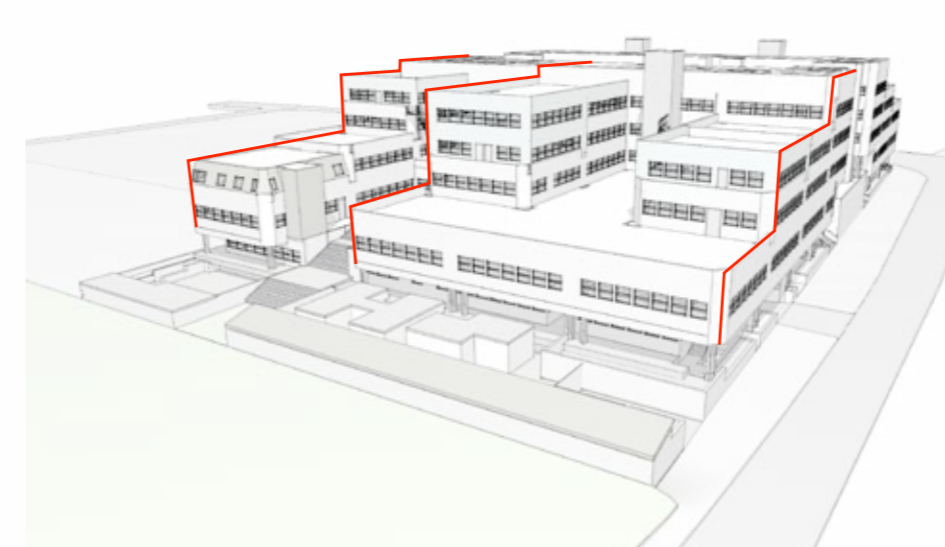


Stepped profile of original building

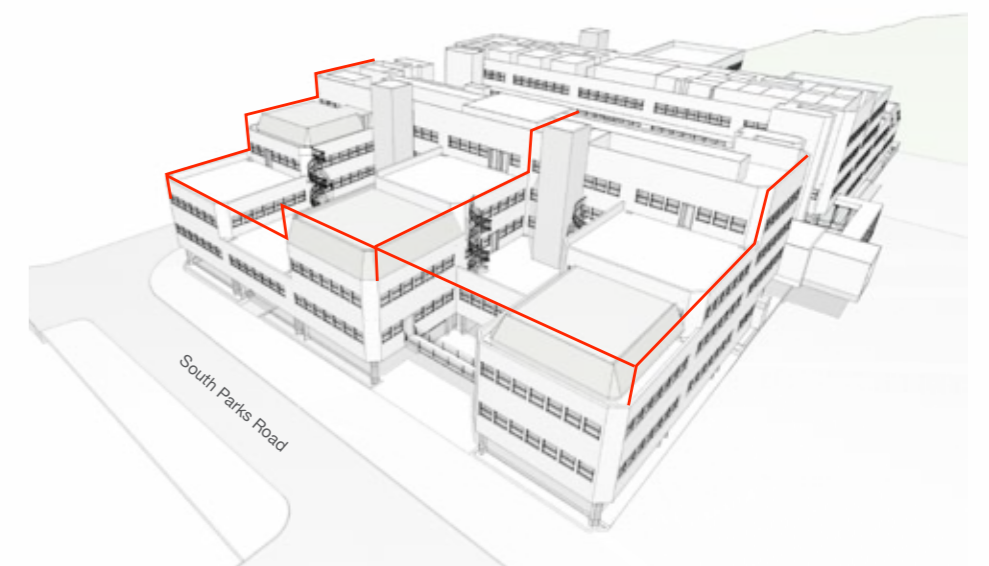
North West view:



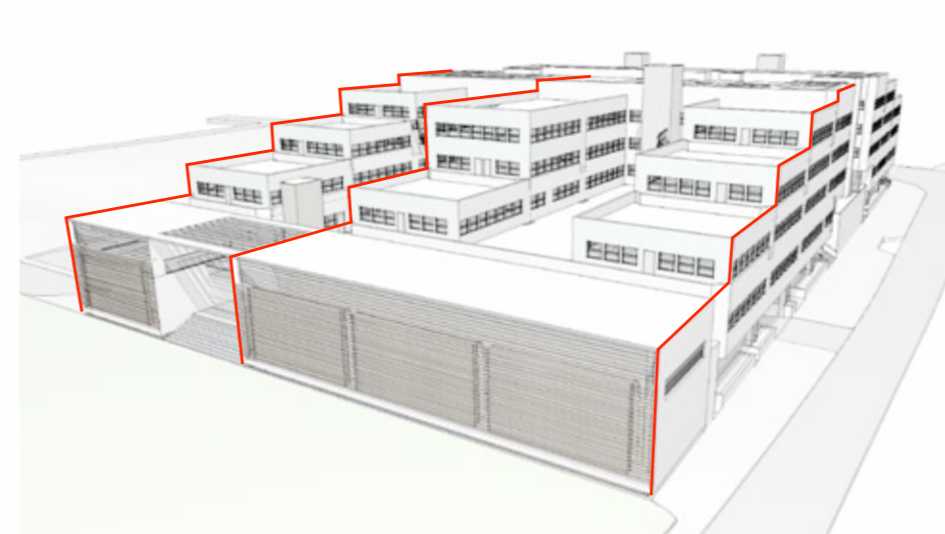
Stepped profile of original building and a consistent street elevation along South Parks Road



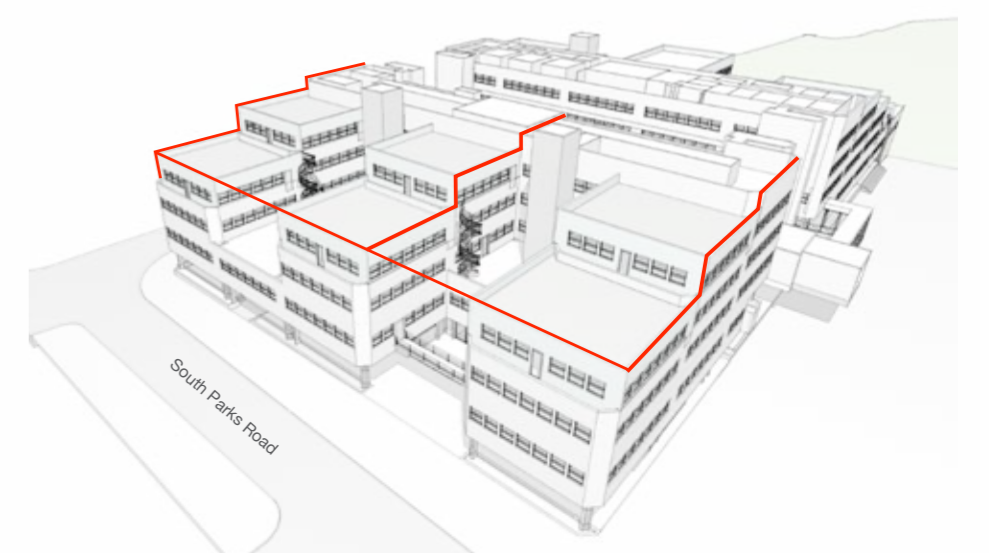
Stepped profile of existing building



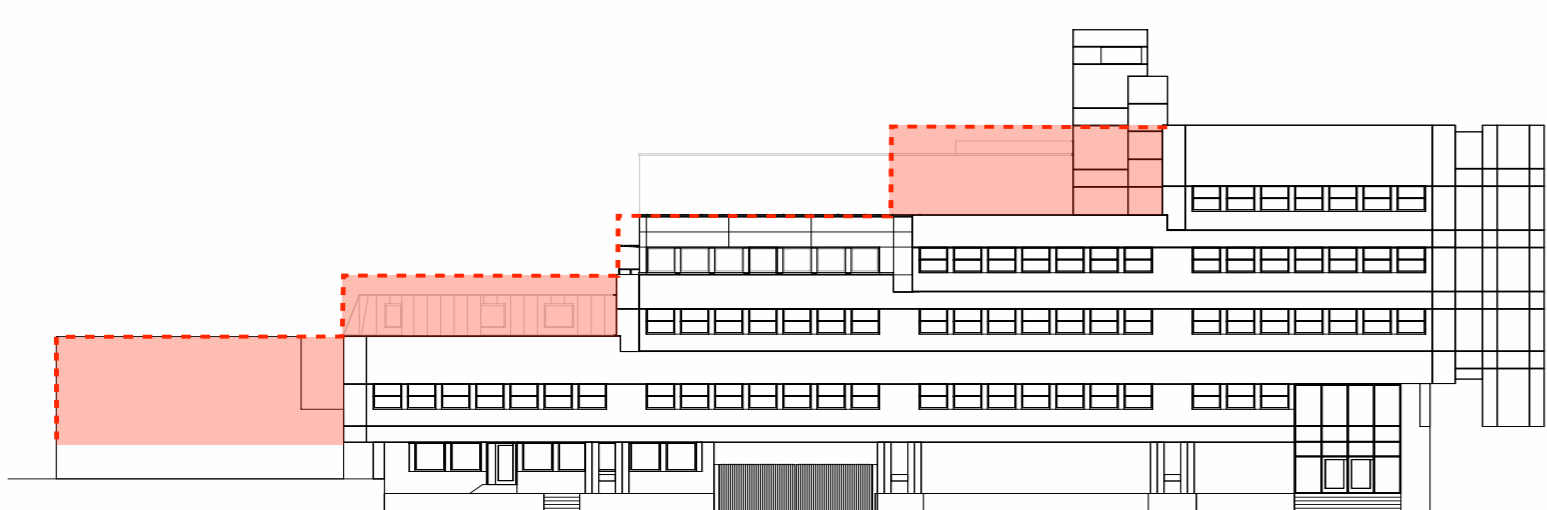
Stepped profile of existing building and an inconsistent street elevation along South Parks Road due to the existing pods



Stepped profile of proposed building to re-establish the original form



Stepped profile of proposed building to re-establish a consistent street elevation along South Parks Road



Existing Tinbergen St Cross Road elevation with overlay of proposed pods to re-establish the original stepped profile





South West view of the Tinbergen Building and the proposed extensions

The following design principles were formulated to inform the external design and character for the new chemistry extensions by:

- providing a “harmonious” addition not by “imitation”
- maintaining the integrity of the original Sir Leslie Martin building
- maintaining the legibility of key concepts of the original building such as: strong grid/frame consisting of stacked modular “bars”; strong horizontal elements and consistent proportion of elements
- retaining consistent material and character including: an off-form concrete “post and beam” frame



New entry proposal on South Parks Road



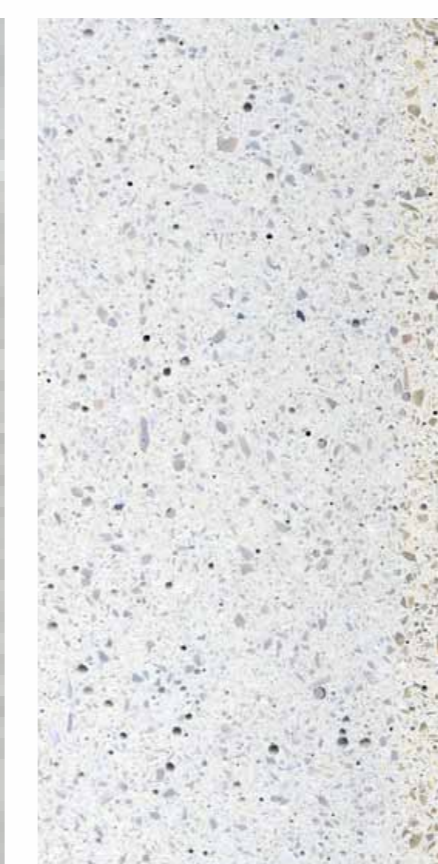
Existing facade current condition



Existing facade after cleaning



Material palette



Precast concrete



Terracotta



Timber lining behind glass



The sustainability strategy for this building, and for future expansion of the University estate as a whole, is to deliver buildings that prioritise passive design and maximise on site energy generation with a view to future campus energy demand.

## BREEAM

It has been University policy since 2009 that all major new buildings and refurbishments achieve a BREEAM (Building Research Establishment Environmental Assessment Method) 'Excellent' rating. This is the most internationally recognised environmental building standard and the University has growing expertise in delivering buildings to it.

## Building Fabric

To ensure optimum efficiency, the design will maximise opportunities to passively control the internal environment. High specification glazed and solid elements will be balanced through careful modelling, and external brise soleil will shade the interiors from excessive heat gains during the warmer months.

The building fabric will be of a high thermal specification and levels of air-tightness will be significantly in excess of legislative compliance to minimise heat loss and heating demand.

## Energy

The building will connect into the Combined Heat and Power (CHP) district heating system operated by the University in the Science Area. This will provide around 80% of heating and hot water and will be supplemented by recovered heat from the stale air extracted from the building and by high efficiency gas boilers.

Carbon emissions will be further reduced by maximising the roof area for a large installation of high efficiency solar photovoltaic (PV) panels on the chemistry laboratories.

Light scoops have been incorporated into the design to increase daylight to below ground areas and to the high density lab spaces. High efficiency LED lighting and occupant sensors will also be installed throughout the building to minimise energy consumption where artificial lighting is required.

## Transport

Cycle parking will be provided at the University's required ratio of one space per 2.8 staff which exceeds the best practice BREEAM requirement. Extensive cyclist facilities will also be provided within the building to further support sustainable transport choices.

In addition to the current direct connection to the Begbroke Science Park, the University is also developing further bus shuttle services to connect the Science Area with other key research sites in Headington and Harwell.

## Landscape

It is proposed to replace the existing set-back gingko tree with two common lime trees (*Tilia x europaea*). These will flank the entrance, in line with the existing lime trees that run along the rest of South Parks Road. They will not only help to signpost the main entry point but also provide a consistent character along the road.



BREEAM Excellent target



Photovoltaic panels on new roof



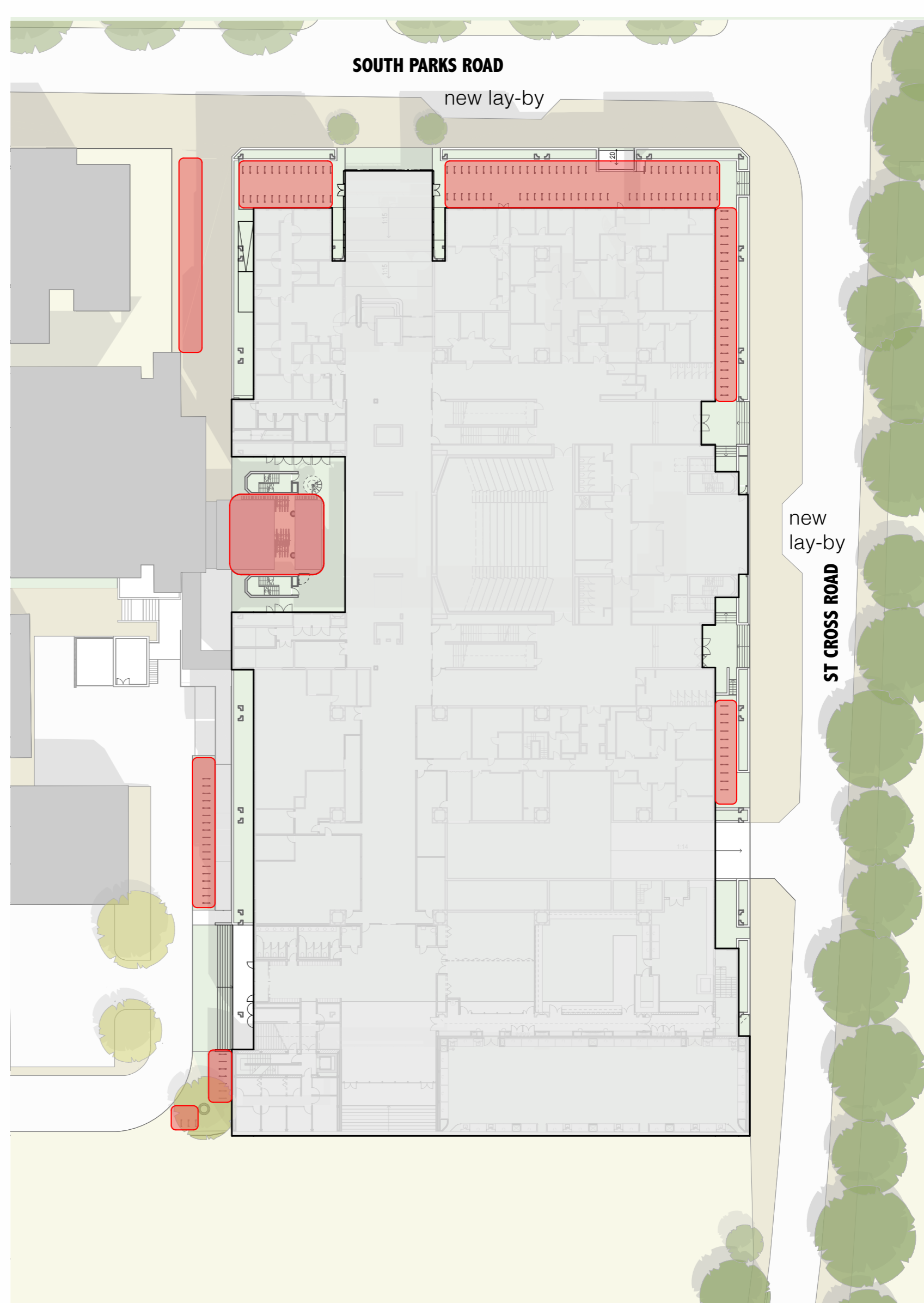
Bicycle parking




Existing entry and gingko tree



Existing lime trees along South Parks Road



Site Plan showing proposed Tinbergen Building cycle parking and storage

 Area for cycle parking



2015

## July

Public exhibition to be held on 17 and 18 July 2015

07  
15

## August

Presentation of scheme to The Oxford Design Review Panel (ODRP) on 13 August

08  
15

## August

Feedback following the public exhibition to be reviewed by the University

## August

Demolition of outbuildings

09  
15

## September

Consultation with local planning authority on emerging designs and ODRP comments

10  
15

## October

Final consultation with local planning authority in advance of submission of full planning application

## October

Submission of full planning application

2016

01  
16

## January

Expected decision on the planning application

## April

Construction works to start on site

04  
16

2017

## July

Construction works forecasted to complete on site

07  
17