



地文
Landform

脈動
Pulsation

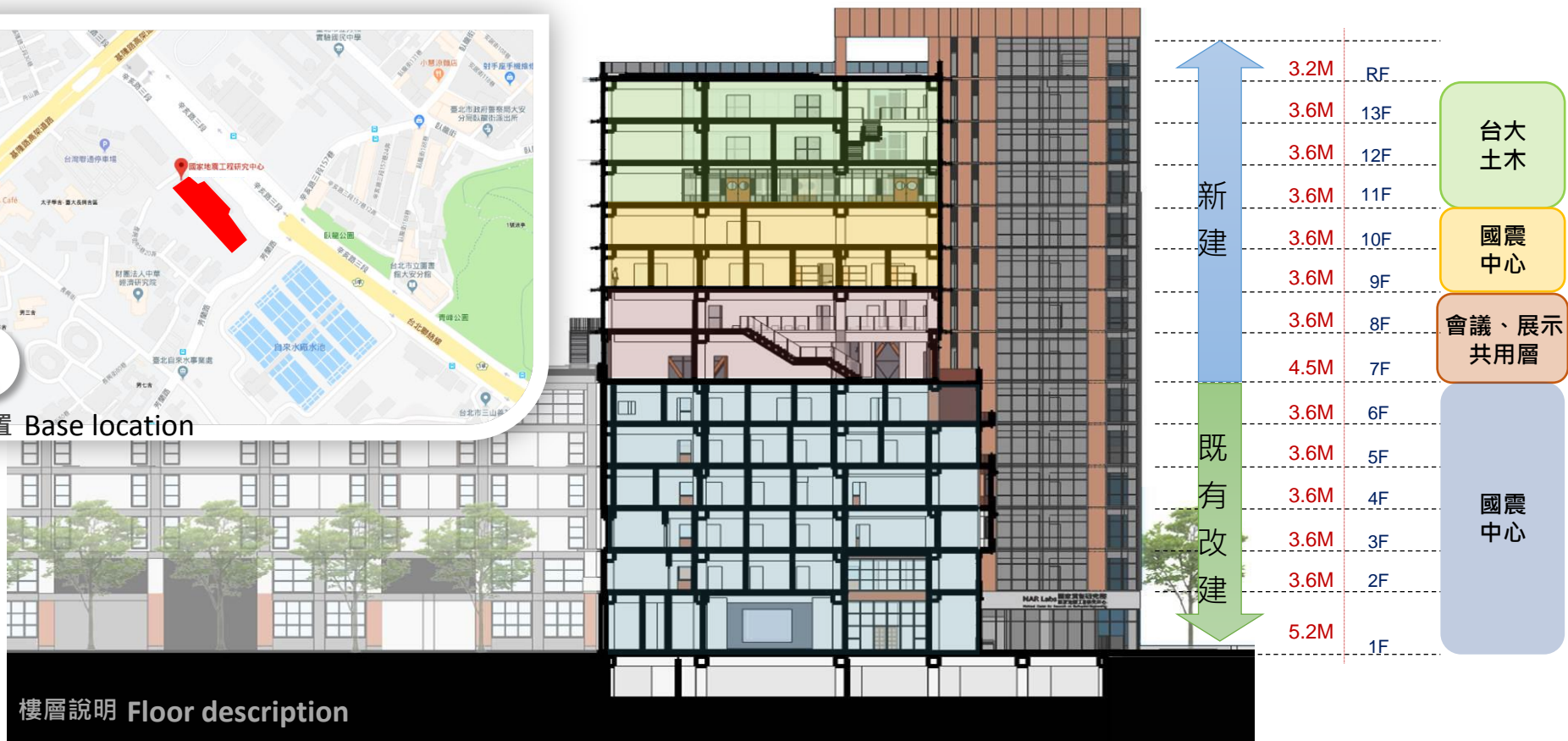
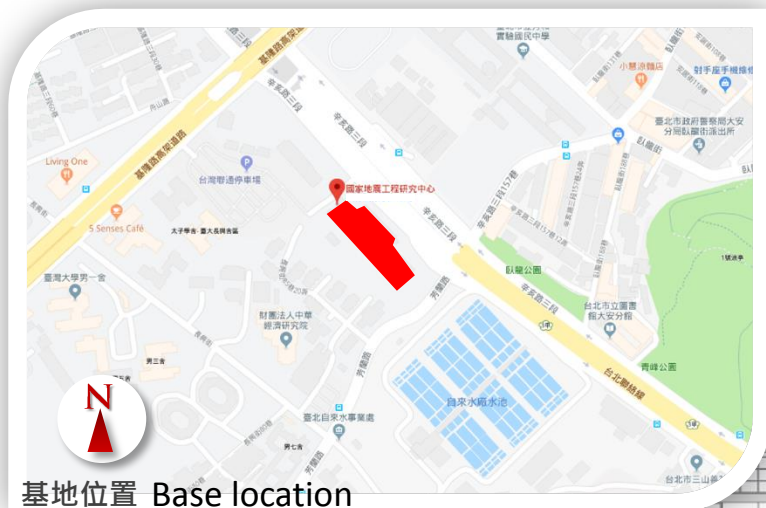
國家地震工程研究中心
National Center for Research on Earthquake Engineering

July 31, 2021

Photo credits: Pixabay

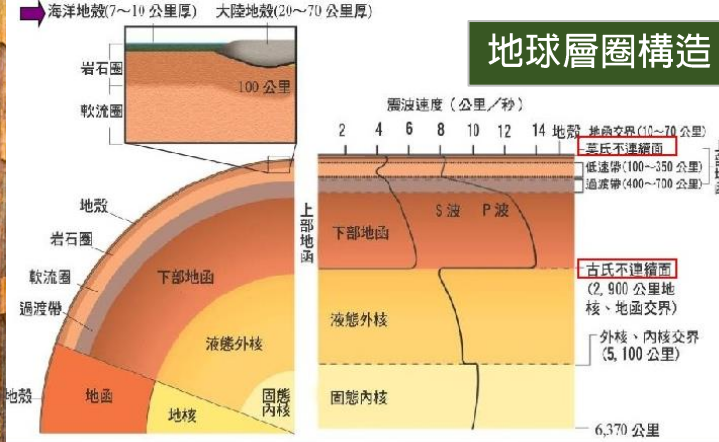
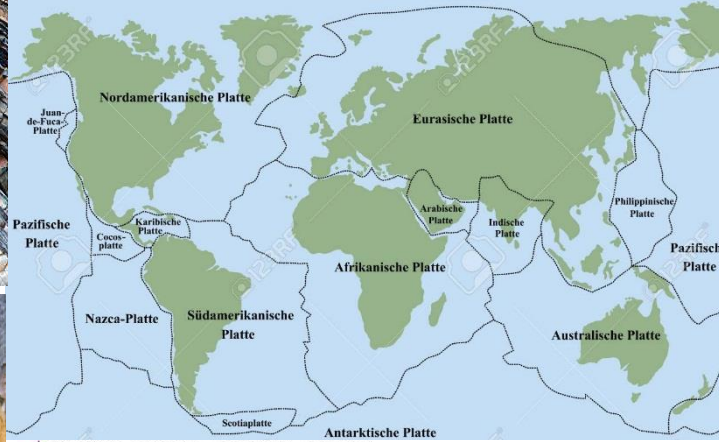
Base

基地座西南朝東北，位處台灣大學校總區規劃小區32範圍，以長興街以北、基隆路以東、辛亥路三段以南及芳蘭路以西圍塑而成。



Concept

地文 landforms



風化、剝蝕、搬運和堆積

地文景觀 融入歲月推手的形塑，幻化成空間元素。如風化、剝蝕、搬運和堆積..等。

The geographic landscape is shaped by time as it rolls by, and transformed into elements of space.

Weathering, denudation, transportation and deposition... etc.

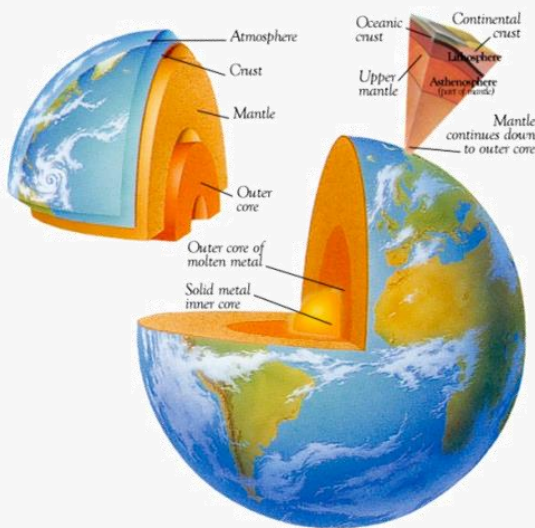
Photo credits: Google

Concept

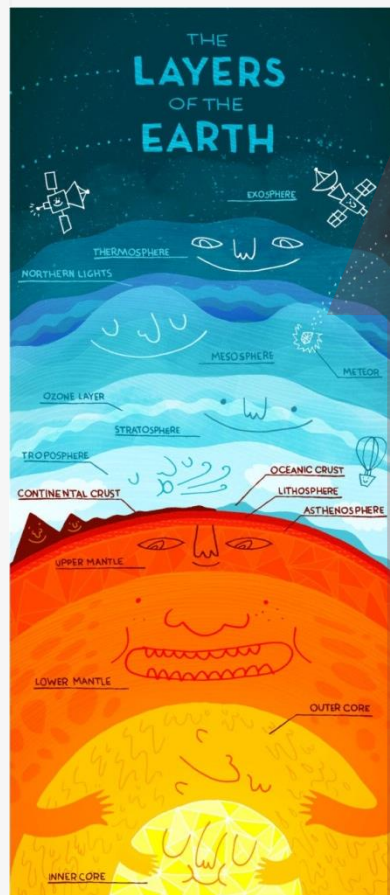
脈動 Pulsation

地震波在相同深度內傳播速度會發生變化，這種變化就反映地球內部的物質成分或狀態的不同；因之，我們將**地球層圈構造**的地核、地幔、地殼延伸至大氣層、銀河等關係，轉換至各樓層序列展開。

At the same depth, the transmission speed of seismic wave changes, this change reflects the difference in composition or state of the earth's interior. Then, we extend the relationship between the core, mantle and crustal crust to the atmosphere and milky way, and manifest it on different floor with different color.



樓層颜色概念 Floor color concept



銀河

13F	milky way	銀河
12F	aurora	極光
11F	night sky	夜空
10F	sky	天空
9F	grassland	草原
8F	forest	森林
7F	wetland	濕地
6F	ocean	海洋
5F	crust	地表
4F	upper mantle	上地幔
3F	lower mantle	下地幔
2F	outer core	外核
1F	inner core	內核

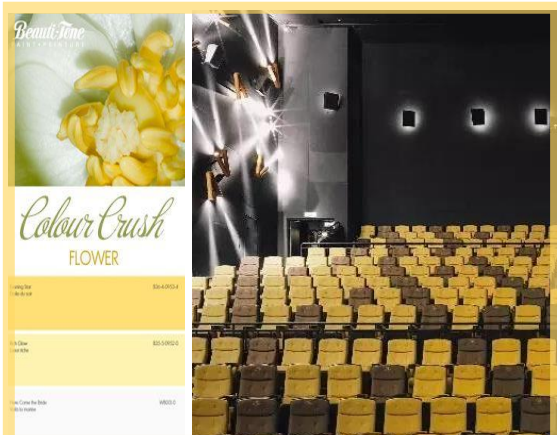
地幔

地核

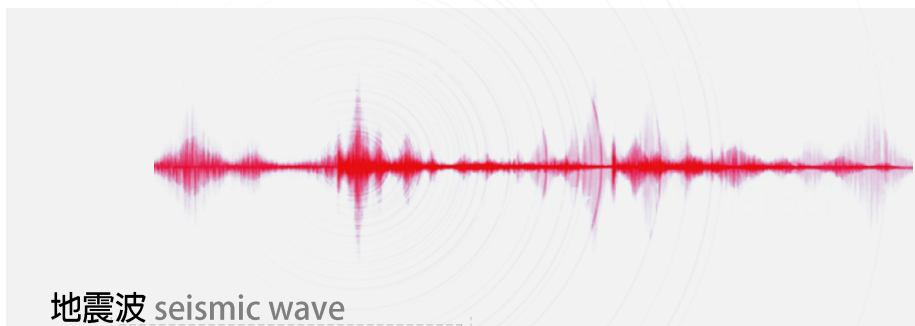
原文網址：<https://kknews.cc/science/gqzm3ll.html>

Present 1F

內核 Inner core



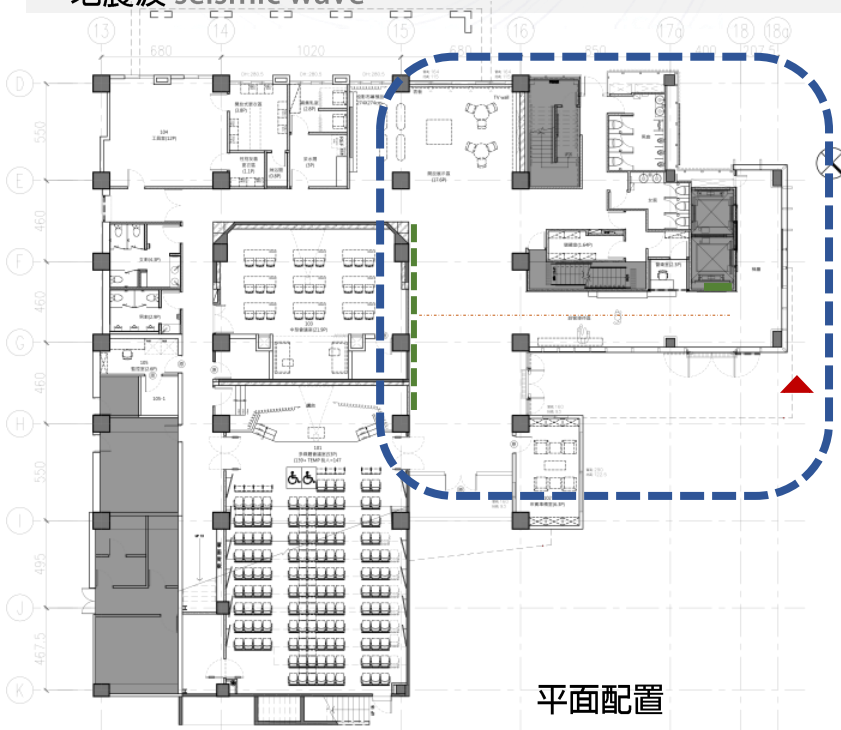
律動 rhythm



地震波 seismic wave

堅實穩固的內核-以材質紋理形塑，利用波動揚起，串連空間律動。

The core – solid and stable, shaped with texture, and linking rhythms in the space with rising wave.



平面配置

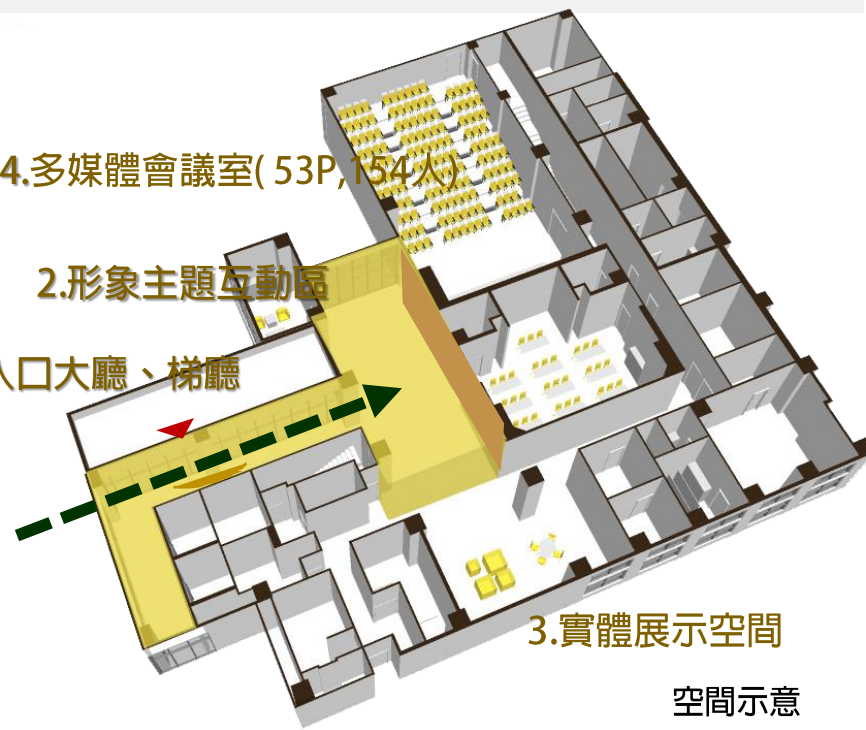
4.多媒體會議室(53P,154人)

2.形象主題互動區

1.入口大廳、梯廳

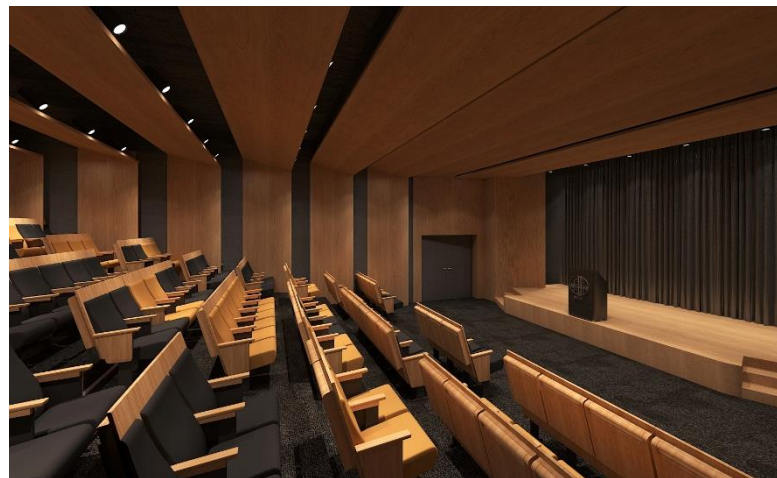
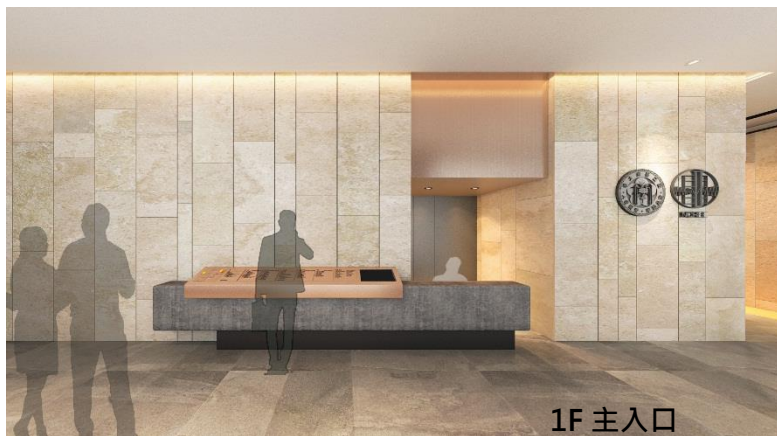
3.實體展示空間

空間示意

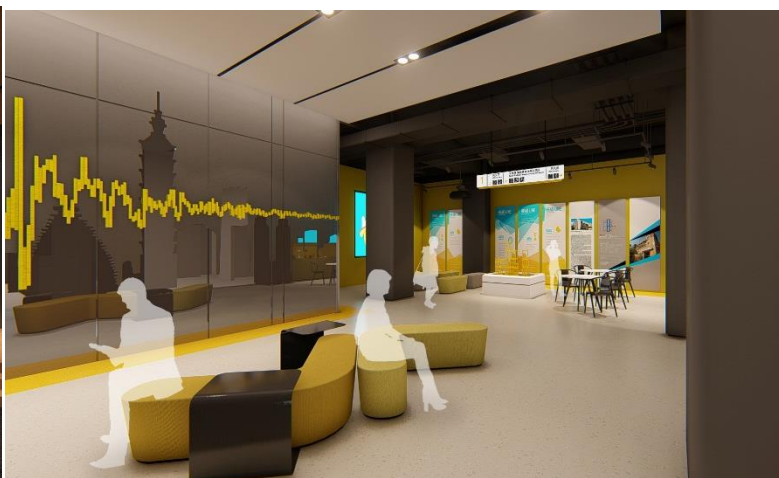


Present

1F 內核 Inner core



1F 國際會議廳



921 地震波 > 1F 形象主牆 V.S. 展示區



1F 形象主牆 前 交誼區

Present

2F~6F

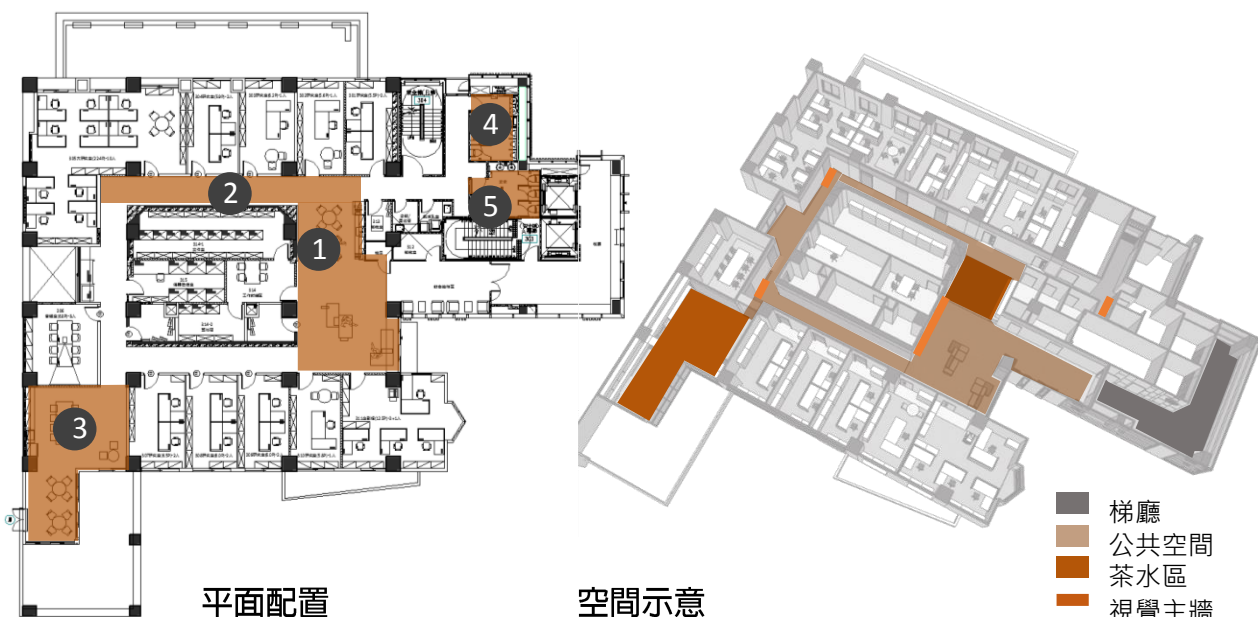
外核-地幔(上、下)-地表-海洋

Outer core-upper and lower mantle-crust surface-ocean

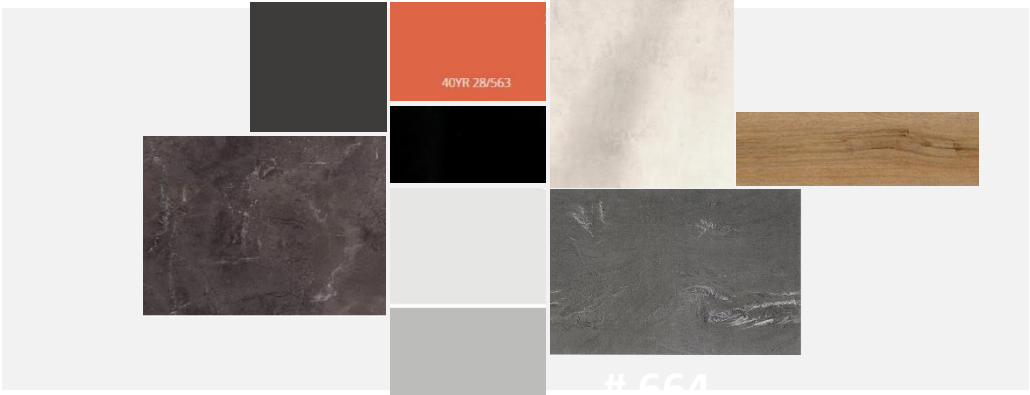


堅實穩固的外核、地幔(函)到軟流層的地殼，見到海洋-波動為各層視覺主牆，帶動樓層印象。

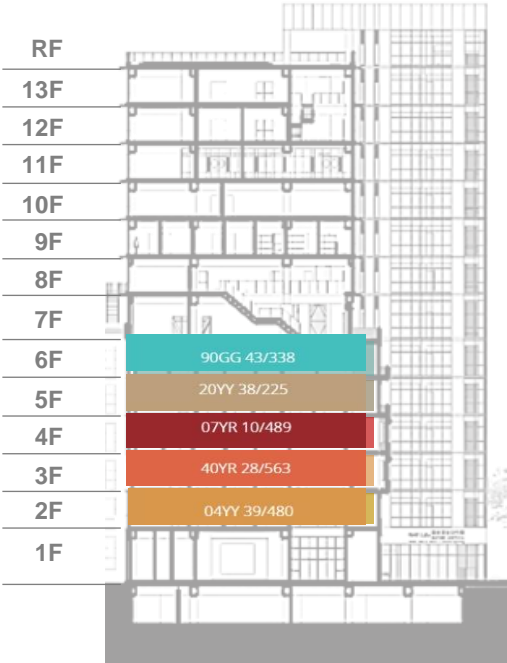
From the solid outer core, the mantle, the asthenosphere crust, to the ocean, together forms the main visual wall of each floor, and bring forth the impression.



Present 2F~6F



會面空間、討論區 meeting space, discussion area



Present

2F~6F 外核-地幔(上、下)-地表-海洋

構成元素：

鐵、鎂、矽
酸鹽、鈣、
鋁等-

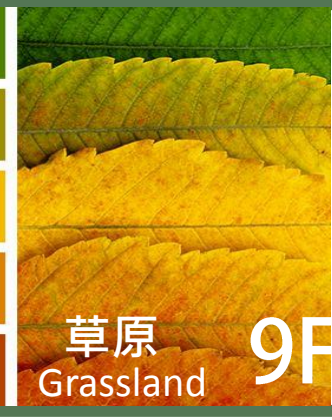
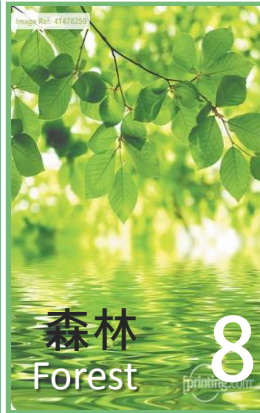
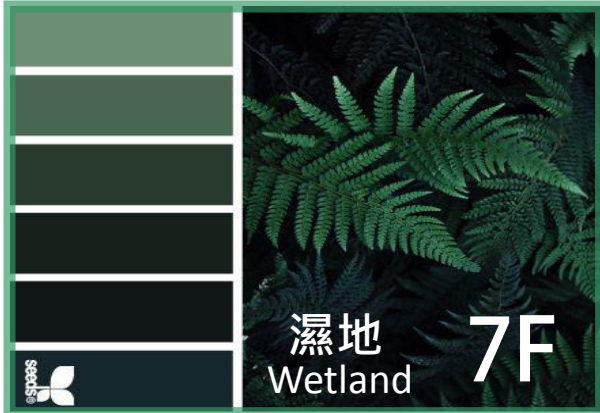


石英（矽的
氧化物）和
類長石的其他
矽酸鹽等
構成。

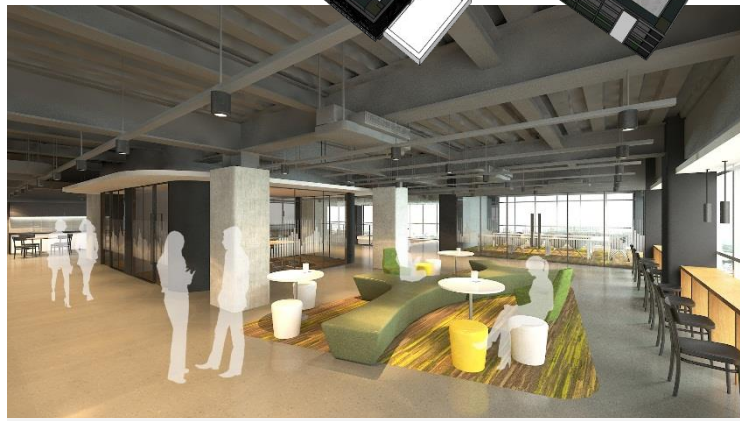


Present 7F~10F

濕地-森林-草原-天空
Wetland-Forest-Grassland-Sky



7F~8F 開放式階梯教室、討論區



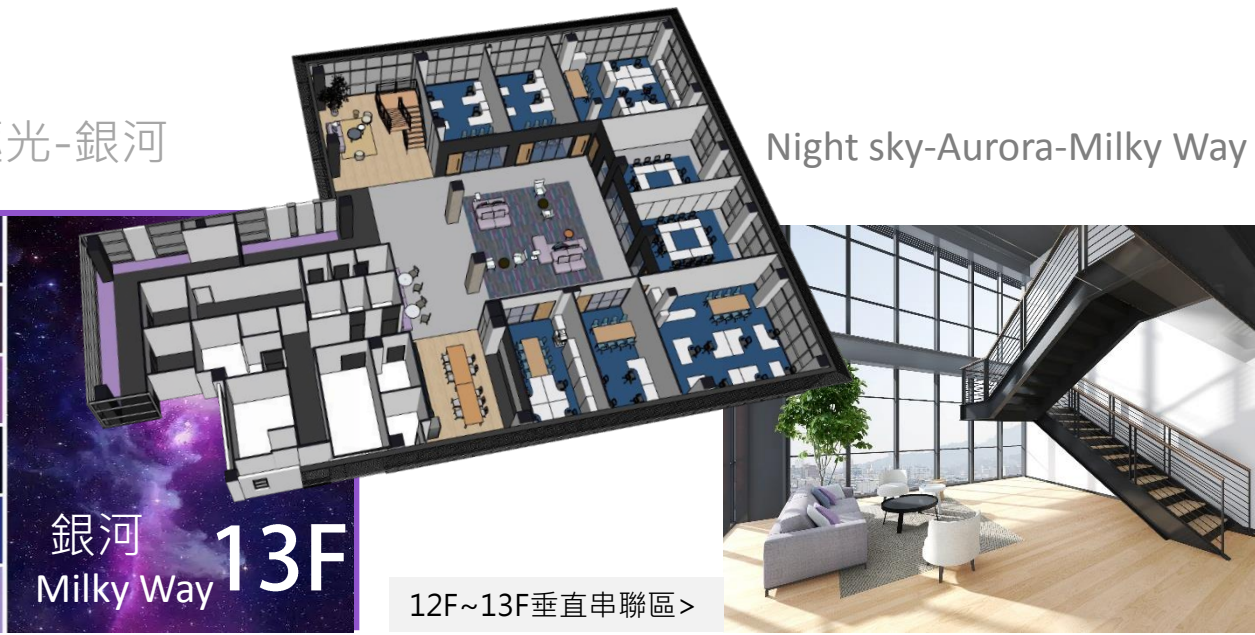
開放討論區



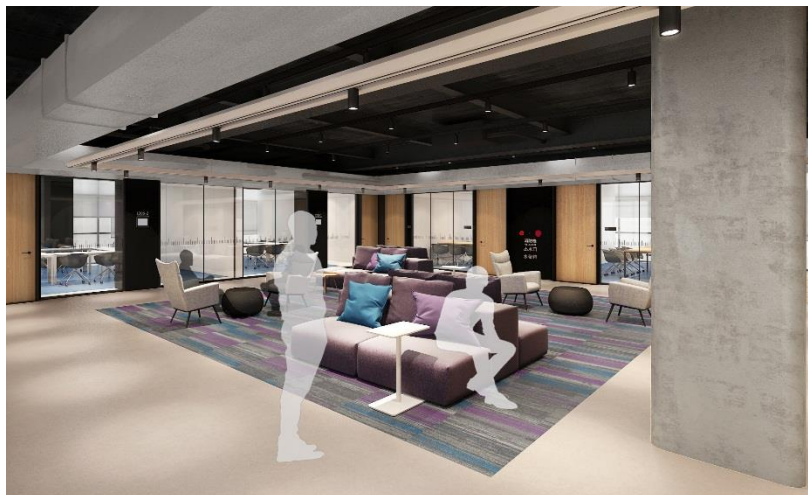
開放討論區、茶水區

Present 11F~13F 夜空-極光-銀河

Night sky-Aurora-Milky Way



核心區> 互動、簡報區(展版圍塑情境)



核心區> 互動、簡報區(一般開放情境)



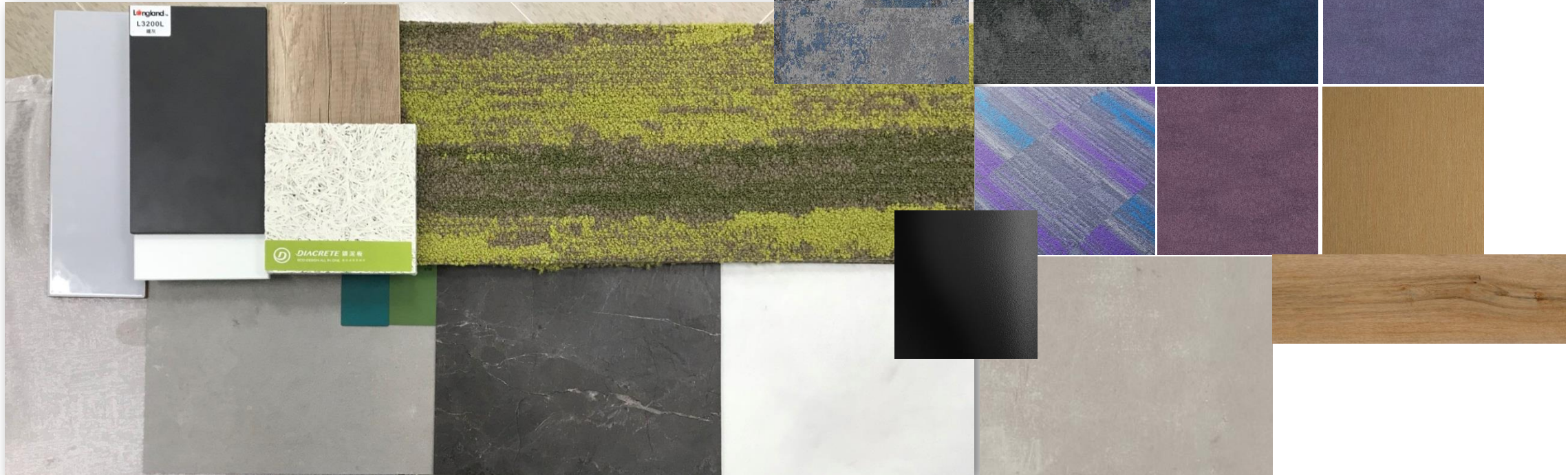
互動討論+ 茶水區

Special design

建材、細節規劃 Material planning

音環境:鑽泥板、羊毛氈、吸音軟木；空氣環境:礦物塗料、環保除醛乳膠漆、竹炭漆；綠建材/可回收:PP膜、金屬、石材、地磚、防燄地毯等；公共空間使用安全性陽角考量防撞護角設置。

We have selected various materials to achieve the best effect for different environment: acoustic, air, green-building/recycle, etc.



Special design

提升耐震性能規劃

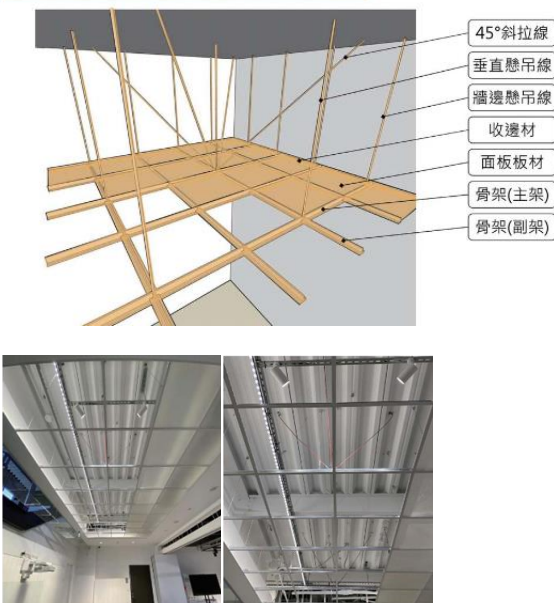
Improving seismic resistant

01. 耐震型明架天花 Seismic Resistant Ceiling

本案規劃時與國震中心研究團隊合作，將懸吊式輕鋼架天花加入耐震防墜考量。

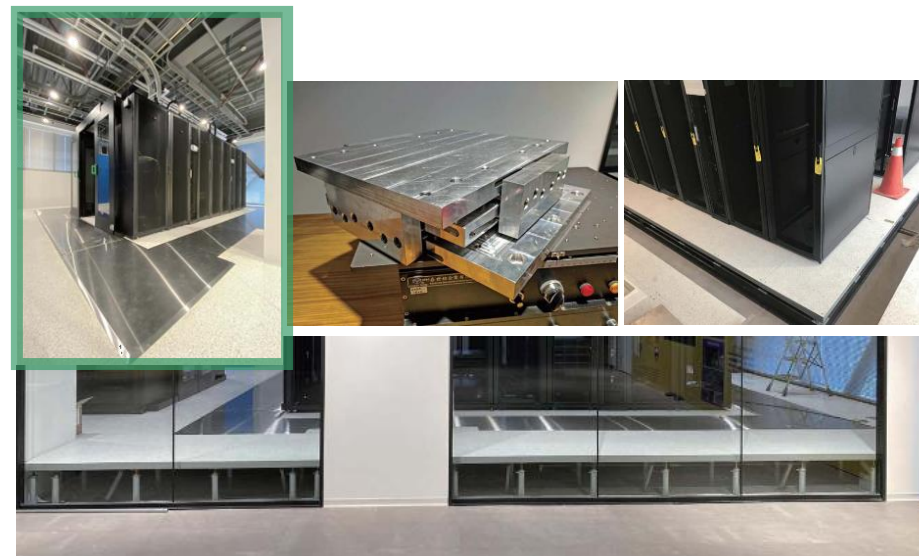
- 耐震型明架天花板系統周為與相鄰兩端處牆施作固定端，對向兩側則為自由端。
- 骨架末端離牆20CM 內均設置垂直懸吊線，以避免骨架與板材受擠壓而掉落。
- 耐震型天花骨架通過ASTM E5805 之抗拉測試，垂直吊線進行100KG抗拉測試。

輕鋼架天花板系統介紹



02. 隔震型高架地板 Seismic Resistant Floor

為確保資訊機房於震時、震後接可正常運作，降低精密設備受震時之加速度反應，採用國震中心專利技術的「斜面滾動隔震支承」，為隔震元件。

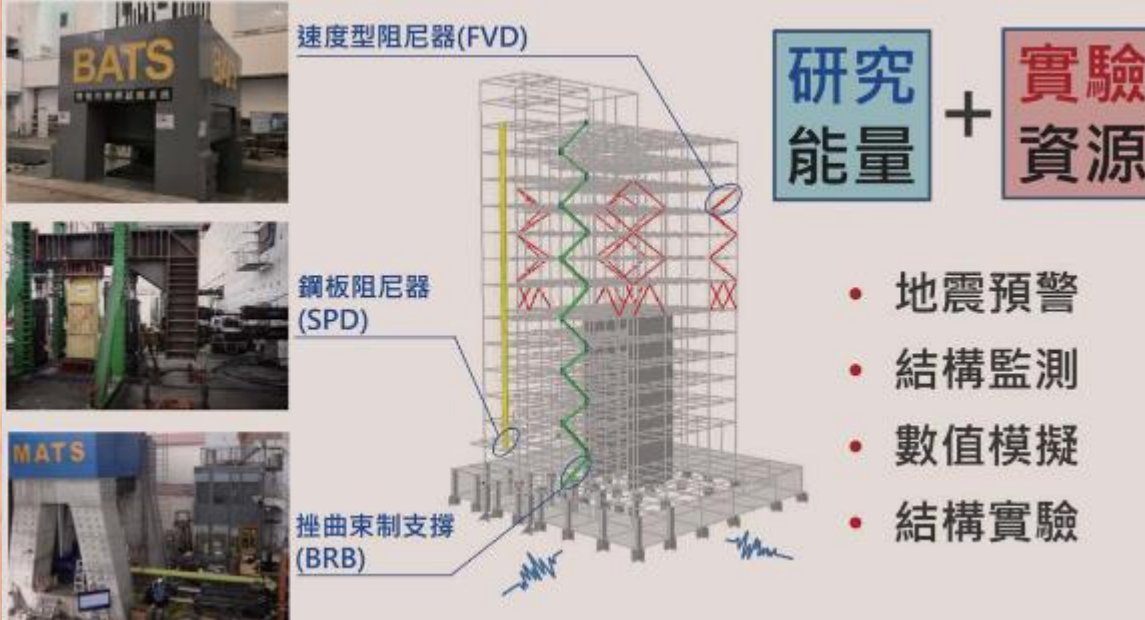


我們的使命

研究大樓為新舊建築的結合，大型試體的概念，以地震波動由地核直通銀河的視覺意象，傳達地震工程的發展與這塊土地共存共榮的精神。

Our Mission

The research building is a combination of new and old buildings. It is a concept of a large-scale experiment body, by using the visual images of seismic waves from the core of the earth to the Milky Way to convey the spirit that the development of earthquake engineering will coexist and co-prosper with this land.



The diagram illustrates a multi-story research building structure with various seismic components labeled. On the left, three photographs show physical components: BATS (Velocity-type Damper), SPD (Steel Plate Damper), and BRB (Buckling Restrainted Support). The central diagram shows a 3D wireframe model of the building with these components integrated into its structure. On the right, a box contains the text '研究能量 + 實驗資源' (Research Energy + Experimental Resources). Below this, a list of activities is provided.

速度型阻尼器(FVD)

鋼板阻尼器 (SPD)

挫曲束制支撐 (BRB)

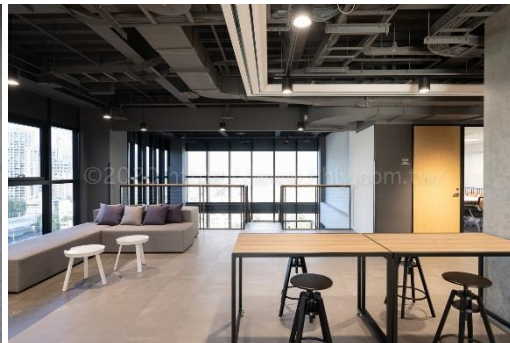
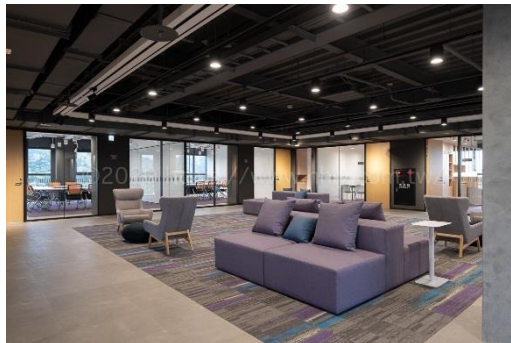
研究能量 + 實驗資源

- 地震預警
- 結構監測
- 數值模擬
- 結構實驗

從地心出發

Starting from the center of the earth

Finished photos



A panoramic view of a city, likely Taipei, with mountains in the background. The image is overlaid with a semi-transparent dark horizontal band across the middle. The text "THE END" is centered within this band.

THE END