



## Involvement

- ◆ Undertook the full detailed mechanical and electrical building services design for this specialist research and teaching laboratory facility
- ◆ Prepared detailed design information in Revit MEP to inform the Building Information Model. Undertake thermal, daylight and energy models
- ◆ Due to the highly technical nature of the equipment, we attended user group meetings to ensure laboratory gas provision, room data sheets and laboratory equipment were adequately catered for within the design
- ◆ Designed the Terminal supply air with HEPA filtration system to the CL2 and CL3 specialist laboratory, ISO Class 8 to the surgical suite and grade F9 filtration to the ventilation to the IN Vivo facility, and holding rooms with thimble connections
- ◆ We undertook detailed design of all laboratory gases and systems and all specialist mechanical services associated with client laboratory equipment
- ◆ Design of CHP hydraulic arrangements and control strategy, review of contractor proposals and development of VAV control strategies.

*Built to underpin the University of  
Plymouth's outstanding performance  
on the Research Excellence  
Framework*

## Description

- ◆ £14m 3,463m<sup>2</sup>, 4-storey BREEAM Excellent research facility building for the Peninsula School of Medicine and Dentistry, providing state of the art health, education and bioscience research facilities
- ◆ General office and administration areas, general and protonic laboratory, imaging facility, tissue culture labs, rat holding rooms, physiology, viral holding rooms, cage wash, category 2 and 3 laboratories, operating suite, biomedical research and ancillary areas
- ◆ Designed to meet Home Office approval and received their validation
- ◆ Design included specialist laboratory ventilation and control system including pressure regimes with magnehelic gauges, fume cupboard extract systems, compressed air, specialist laboratory equipment, HEPA filtration, gas detection and shut-off systems, laboratory water and specialist drainage.

## Benefits Delivered

- ◆ Worked with contractors Kier and TClarke, as part of a collaborative design team, to provide early review of plant and services distribution routes to overcome co-ordination challenges
- ◆ Addressed spatial requirements, primary service runs were generated in Revit MEP and incorporated into the architectural model enabling successfully resolution in a timely manner
- ◆ Close communication and co-ordination with the University of Plymouth clinicians to develop the client brief into a full technical design proposal
- ◆ Captured the complex requirements of client laboratory fixtures, fitting and equipment, assessed the impact on design and provided resolution for incorporation into the scheme
- ◆ Early identification of infrastructure capacity issues to enable preemptive decision making on site layout and distribution plant locations
- ◆ Set-up technical submittals procedure for simple sign-off by client technical advisors.