



**Concurrent Session C**  
**Monday 31 August**  
**1.30pm – 2.20pm**

**Session 3**

**Laboratory Excellence and Collaborative Research Environments: A Global Approach**

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*Georgia Singleton, Director, Woods Bagot. Georgia is a global leader in the development of education facilities and provides a strong commitment to the education sector's ongoing development within Australia and across the world. Having worked on a diverse range and scale of architectural and interiors focused projects, Georgia seeks to push traditional building and fitout typologies with dynamic, highly integrated and research-driven solutions.*

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The nature of global research is changing with the increasing emphasis on cross-disciplinary research. This trend is driving the need for increased collaboration both within the lab and among the international research community. Research buildings are also playing a much greater public role such as providing a marketing showpiece for attracting funding and research staff, or as educational facilities for academia and/or the community. This notion of collaboration makes it necessary to consider a whole range of aspects when working with user groups on the design of collaborative research environments.

This paper explores two case studies – the recently-completed South Australian Health and Medical Research Institute (SAHMRI) in Adelaide and a new facility currently in design phase in Sydney, the Biological Sciences building at UNSW. Both are designed by Woods Bagot and Research Facilities Design (RFD).

**Adaptability**

The constant expansion and reduction in the size of research teams means that laboratory space needs to be reconfigurable. Therefore, laboratory floorplates need to be designed to be easily divisible, services need to be easily accessible and laboratory furniture is no longer fixed but rather modular and reconfigurable without the aid of a contractor.

To improve the working environment within the laboratory, and to better accommodate the constant change required by new instruments and equipment, the current trend sees distribution of those items requiring containment and intensive servicing to ancillary spaces. This practice actually contributes to increased collaboration as specialised equipment can be more easily centralised and shared.

Adaptability also extends to the associated office and write up spaces which, if not contained within the lab, are often open plan and reconfigurable.

**Information Technology**

Researchers no longer operate in isolation. Collaboration with industry partners and other research institutes locally and internationally drives the need for more sophisticated IT infrastructure. Further to this, many research techniques traditionally carried out in wet labs are moving to digitally simulated models and this is also contributing to the need for greater IT infrastructure within research facilities.

Another trend we have observed is the need for highly sophisticated data storage and management due to the high level of research data being generated and shared between institutions, often co-location or integration of data centre facilities is required.

### **Spatial Configuration and Building Functions**

The spatial configuration of a facility can do much to encourage and support collaborative behaviours in building users. From a masterplanning perspective, the spatial configuration of a facility can ensure that linkages with supporting facilities, transportation, social and retail areas are optimised. Internally, the central placement of elements such as libraries and cafeterias, meeting spaces and break out spaces can contribute to an increase in chance encounters and casual or social interactions that deeper professional collaborations are based upon.

Other features such as the inclusion of atrium spaces and introducing a degree of transparency via the use of glass partitioning reduces visual barriers and allows the activity being carried out within a research facility to be revealed, creating a sense of excitement and participation.

### **SAHMRI**

The South Australian Health and Medical Research Institute (SAHMRI) is a world class medical research facility that houses over 600 researchers. The facilities are highly flexible (all floors have the infrastructure to house wet laboratories) and connected by a contemporary open plan office / meeting and dry lab work environment. A 'staff retreat/lounge' area to encourage the meeting and collaboration between researchers and between researchers and clinicians. An innovative engineering services approach has enabled 24 / 7 operability and back up. Key service interfaces have been developed between the SAHMRI, the RAH and Universities, including the provisioning of a cyclotron, animal and human imaging and clinical trials facilities. The design of the new facility accommodates the above requirements via a combination of flexible and adaptable modular design, logical functional relationships that enable future expansion and or redesign and connections (both physical and IT) based with the adjacent hospital, universities and Nodes of the SAHMRI.

### **Biosciences**

The University of New South Wales' new Biosciences building will be built within UNSW's Kensington Campus, in the upper campus area known as the Biomedical Precinct. The AUD 80 million, 15,000 m<sup>2</sup> building will house five floors of new research and teaching laboratories, and create a new northern gateway for the University's Biosciences Precinct.

RFD's extensive database of critical area and cost benchmarking information gathered from hundreds of projects over the past 29 years assist in validating a variety of area, programme. These ratios include Net/Gross Area ratio, ratio of Laboratory to Laboratory Support Space, Laboratory Density. A series of laboratory-based user group sessions will guide users' decisions on the suitability of space and services.