



**UNSW**  
SYDNEY



## Cardiovascular Simulation and Device Development

**A close collaboration between clinicians and biomedical engineering enables patient specific planning for complex cardiac procedures, and simulation to improve device design and delivery.**

### Competitive advantage

- Closely link engineering and clinical team
- Well developed cardiovascular simulation focused on improving outcome
- Experience with multimodal cardiac imaging techniques

### Impact

- Improved and accelerated device design
- Increased certainty of procedural planning for early stage device implementation
- Improved device sizing for complex procedures
- Clinician education/skills simulation

### Successful outcomes

- Cardiovascular 3D printing for early-stage device development and testing
- Patient specific simulation for first-in-man and early stage cardiovascular device deployment
- Complex surgical and cardiovascular intervention planning

### Capabilities and facilities

- Cardiac segmentation and analysis
- Cardiovascular simulation: COMSOL/Matlab
- 3D Printing

### More Information

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Cardiovascular Simulation and Device  
Development

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