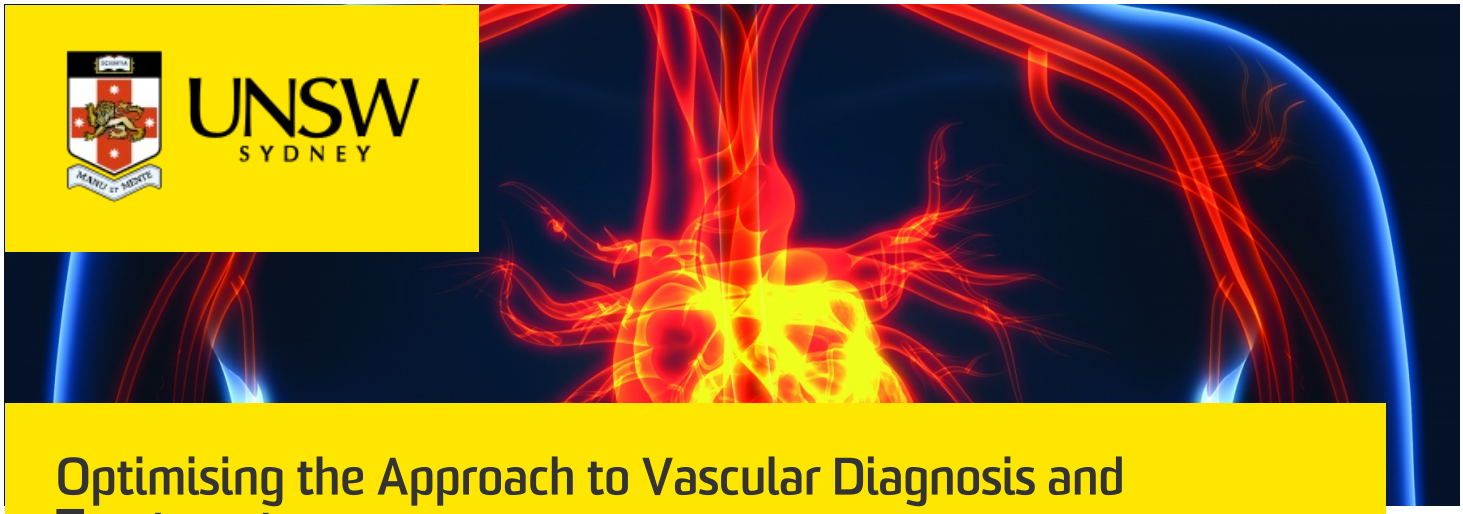

Optimising the Approach to Vascular Diagnosis and Treatment

Advanced flow modelling and experimental analysis from medical images, virtualisation and simulation for structural and fluid dynamic investigation. This includes populational statistics and data-driven mapping for biomarker detection, improved diagnostics and treatment optimisation.

Competitive advantage

- Use-inspired research resulting in close collaboration with clinical professionals
- State-of-the-art capabilities in terms of bench-top testing with couple computational assessment

Impact

- Using statistics, simulation and analytics to optimise the diagnosis and treatment approach in vascular care.

Successful outcomes

- Framework for a populational large-scale arterial shape and flow analysis
- Automated adverse vessel shape feature recognition tool
- Data analytics for two stent strategy forecasting
- Realistic replication of vessel tissue mechanics and shape using 3D printing
- Novel stent design proposal based on flow optimisation

Capabilities and facilities

- Multi-objective design optimisation
- PIV and LDA flow measurement systems with advanced pressure-flow control
- Microfluidic device fabrication facilities with PC1 lab
- A range of multi-material and compliance 3D printers
- Super-computer modelling with high end GPU and storage capability

Our partners

- Prince of Wales Hospital
- Boston Scientific

More Information

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