CURRENT AVAILABLE PROJECTS FOR A/PROF TRACIE BARBER

[collaborators listed in square brackets]

CONTACT: t.barber@unsw.edu.au

My group works in the field of vascular fluid dynamics - we use CFD and experimental systems to solve problems for our clinical collaborators. Projects are available in areas related to dialysis, stents, interventional surgery and microfluidics. I also work with other researchers using virtual reality to aid in patient rehabilitation and 3D printing to help in surgical planning. Please contact me if you are interested in the topics below, or in the general areas mentioned above. Other projects are also available.

PROJECTS – BE

- Using CFD data to create virtual reality models [UNSW Art & Design]
- Microfluidics model of spiral arteries [Royal Hospital for Women]
- CFD study of aneurysm stenting [POW Hospital, Medtronic]
- CFD study of patient specific carotid artery stenosis [POW Hospital]
- Development of cannulation trainer [POW Hospital, Medtronic]
- Validation of fetal ultrasound indices [Royal Hospital for Women]
- Experiments on droplet formation for inkjet printers [Inventia Life Science]
- CFD study of aortic arch clot trajectories [POW Hospital]
- Design and manufacture of a microbubble generator using microfluidics

PROJECTS – PhD

- DNS of dynamic stenosis [Concord Hospital]
- Experimental and CFD validation of fetal ultrasound indices [Royal Hospital for Women]
- Patient study of arterio-venous fistula stenosis [POW Hospital]
- Experimental and computational study of peripheral artery bifurcation stenting [POW Hospital]
- FSI study of peripheral artery stenting [POW Hospital]
- The effect of an arterio-venous fistula on the cardiac system [POW Hospital]
- Combining CFD and PIV to create accurate VR datasets [UNSW Art & Design]
- CFD, experimental and patient study of the plastic dialysis cannula [POW Hospital, Medtronic]
- Myocardial bridging experiments [Concord Hospital]