

PERSONAL INFORMATION

Patrick Couser, MEng, PhD, CEng, MRINA

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Date of Birth: 23 November 1967
Nationality: Dual: British and Australian
Marital Status: Married
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WORK EXPERIENCE

Sunnypowers Limited, (June 2004 to Present). Director

I now run my own consulting company – Sunnypowers Limited. Sunnypowers provides software development, naval architecture and project management services. At present my principle client is Formation Design Systems. My role there continues to be very similar to when I worked for them as an employee.

Formation Design Systems, (September 1998 to June 2004). Senior Naval Architect

I worked for Formation Design Systems as a naval architect, software engineer and project manager for six years. FDS specialises in the development of high-end CAD and analysis software for the naval architecture and construction industries. My main responsibilities included development of the Maxsurf ship design software suite – project management, design, coding and testing, in particular development of naval architecture analysis software (vessel motions, hydrostatics analysis, resistance and propulsion and sailing yacht performance); writing technical documentation, media releases, technical papers, product manuals and training curricula; provision of technical support and user training; marketing – trade shows, technical enquiries.

AME CRC, Perth Core, (August 1996 to September 1998). Research Associate

Employed as a Research Associate at the Perth Core of the Australian Maritime Engineering CRC, I was involved with a variety of projects, including sea trials of commercial vessels; instrumentation of an 8m catamaran; prediction of vessel motions; yacht technology research; software development; computer network management and internet / intranet development; development of a quality assurance policy manual and graduate and undergraduate student supervision.

My areas of research focused on the performance of high-speed catamarans in calm water and waves, with particular emphasis on the prediction and measurement of wave induced loads and motions on an 8m research vessel. I supervised two PhD students in this field. I was also the principal researcher in AME CRC in the field of sail aerodynamics, supervising an undergraduate student project in this area. In addition, I developed a sail measurement and analysis system for the AIS sailing squad, which was used in the lead up to the 2000 Olympics.

BMT Seatech Ltd, (January 1996 to June 1996). Senior Naval Architect

At BMT I was employed as Senior Naval Architect. I was principally involved with a part EC funded group project with five other companies in the EC. The aim of the project was to investigate and improve the performance of fast catamaran vessels operating in shallow water. This accounted for approximately 80% of my time, the remainder was spent on other projects, including installation of hull stress monitoring equipment and some IT support.

University of Southampton, (January 1992 to December 1995). Research Assistant

I was employed as a research assistant in the Department of Ship Science. My areas of research were the characteristics of catamarans in calm and rough water. This research involved a substantial programme of tank testing as well as computer / numerical modelling and prediction of catamaran resistance. My responsibilities included the project management of my research contracts, technical supervision of MSc student projects, undergraduate laboratory supervisions, marking and tutorials.

North Sails UK, Fareham, Hants. (October 1991 to March 1992, part time)

I was involved with the design of the sails for the 1993 Whitbread yacht Merit Cup. This involved numerical modelling of the sails, optimisation of the sail plan according to IOR rules and substantial wind tunnel testing with the Wolfson Unit MTIA at the University of Southampton.

Seward Maritime, Tasmania, Australia. (June 1991). Naval Architect

I spent a brief period working for a small naval architecture consultancy in Launceston, Tasmania. During this period I was mainly involved with drawing lines plans.

Shell International Marine, London. (2nd summer placement, 1989). Naval Architect

As part of my MEng degree I was required to obtain six months industrial experience during the second and third year summer vacations. I was employed as a naval architect and was involved in a wide range of projects including the improvement of a power prediction and cargo capacity estimation program for tankers, and some litigation work.

Honeywell Bull, Hemel Hempstead, Hertfordshire. (1st summer placement, 1988). Project Manager

I was employed as an assistant project manager in the Internal Services Department. As well as running my own projects, I was involved in the refurbishment of several buildings.

EDUCATION and QUALIFICATIONS

Elected Member of RINA and received Chartered Engineer status April 1999.

University of Southampton, (October 1991 to December 1995).

PhD, Naval Architecture thesis title: *An investigation into the performance of high-speed displacement catamarans in calm water and waves.*

University of Southampton, (October 1986 to June 1990)

MEng, Ship Science subjects: mathematics, fluid dynamics, structures, resistance and propulsion, dynamics of marine vehicles, naval architecture, materials science, electrical systems, electronics, thermodynamics.

Individual project: *Numerical model of 3D inviscid flow over aerofoils with zero thickness.*

Group design project: *Development of finite element model to calculate impact performance of crash helmets.*

Group multi-disciplinary project: *The advice needs of small rural industries.*

Ashlyns School, Berkhamsted, Hertfordshire, (September 1981 to July 1986)

A level GCE June 1986: Mathematics(A), Physics(B), Chemistry(B).

O Level GCE June 1984: Mathematics(A), Physics(A), Chemistry(A), Biology(A), English Lang(C), English Lit(B), French(A), German(C). CSE May 1984: Religious Education(Grade 2).

SKILLS

Computer Experience

Hardware: PC (including assembly), Macintosh and Sun, Silicon Graphics and DEC workstations. Some parallel computer experience.

Programming Languages: Visual C++, C, PASCAL, FORTRAN and BASIC; MS Windows, MFC, X Windows

Applications: Maxsurf suite, AUTOCAD, Wolfson, Autoship, Shipflow, ANSYS, MS Office (Word, Excel, Project, Powerpoint, Access, Visio), html authoring and programming, LaTeX, various image/graphics and video editing packages.

Operating systems: MS Windows (XP, 2000, 9x, NT), DOS, Unix, Solaris, Linux and DCL/VMS. Some network administration experience.

Project management

All my work experience has involved project management to some degree or another. In many cases this was primarily project management of my research projects, whilst at Formation Design Systems and AME CRC I project managed larger scale software and research projects which involved larger teams.

Language skills

Competent French, I have been living full-time in France since May 2004; basic 'phrase book' German and Spanish.

Driving

I have a full clean British driving licence, which I have held since 1985 (and West Australian since 1996).

INTERESTS

Mountain biking

I was the Treasurer of the West Australian Mountain Bike Association from 1999 to 2003 and competed in various WA mountain biking events while I lived in Australia, finishing as Sports grade state points series winner and second in the state championships in 1999. As an undergraduate at the University of Southampton, I was a founder member of, and keen racer in, the University mountain bike club. Now in France, I enjoy discovering the Pyrenees by bike.

Windsurfing and sailing

I enjoy most forms of water sports, including windsurfing, dinghy sailing and yachting. I have tried some of my own design ideas and have built a sailboard, surfboard and some sailboard fins. During the summers of 1987 and 1990 I worked as a sailing instructor for PGL Adventure Holidays.

Travel

I enjoy travelling and spent seven months on a trip through Hong Kong, Australia, New Zealand and the USA. I have also travelled extensively in Europe and visited some parts of Asia on business. I lived in Western Australia for eight years and now live in the French Pyrenees. While at Formation Design Systems I travelled extensively in Asia, something I greatly enjoyed. This gave me the opportunity to visit China, Singapore, Malaysia and UAE.

REFEREES

Mr K.Klaka Director, Centre of Marine Sciences and Technology. Curtin University of Technology, GPO Box U1987, WA 6845, Australia.

Dr J.F. Wellicome (PhD supervisor) and **Dr A.F. Molland** (Research contract supervisor), Department of Ship Science, University of Southampton, SO17 1BJ, England.

Publications

- Thomas, G, Doctors, L.J, Couser, P, and Hackett, M. Catamaran Motions in Beam and Oblique Seas. FAST 2007, Shanghai, China. September 2007
- Ward, C. Couser, P, and Vosmer, T. Building Hatsheptut's Punt Ship: Science and Ship Reconstruction. Historical Boat- and Ship-Replicas. Torgelow, Germany. June 2007
- Couser, P., On the effect of tank free surface on vessel static stability. International Journal of Maritime Engineering, vol 146, Part A3, 2004
- Couser, P., Mason, A., Mason, G., Smith, R.C., von Kinsky, B.R. Artificial Neural Networks for Hull Resistance Prediction. COMPIT 2004, Sigüenza, Spain. September 2004.
- Couser, P. A Software Developer's Perspective Of Stability Criteria. STAB 2003, Madrid, Spain. September 2003.
- Couser, P. Use of computers in the design of high-speed craft. RINA at Ausmarine, Fremantle, Western Australia. October 2002.
- Couser, P. Seakeeping analysis for preliminary design. Ausmarine, Fremantle, Western Australia. November 2000.
- Cook, S., Couser, P., Klaka, K. Investigation into Wave Loads and Catamarans. Hydrodynamics of High Speed Craft Conference, London, UK, 24-25 November 1999
- Couser, P., Deane, N. Use of CFD techniques in the preliminary design of upwind sails. 14th SNAME Chesapeake Sailing Yacht Symposium, Annapolis, USA. January 28 - February 1 1999.
- Couser, P.R., Wellicome, J.F. and Molland, A.F. An Improved Method for the Theoretical Prediction of the Wave Resistance of Transom-Stern Hulls Using a Slender Body Approach. International Shipbuilding Progress, 45(444), December 1998.
- Couser, P.R., Wellicome, J.F. and Molland, A.F. Experimental Measurement of Sideforce and Induced Drag on Catamaran Demihulls. International Shipbuilding Progress, 45(443), September 1998.
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- Couser P.R., Molland, A.F., Armstrong, N.A and Utama I.K.A.P. Calm water powering predictions for high-speed catamarans. Fast '97, Sydney, Australia, July 1997.
- Molland, A.F., Karayannis, T. and Couser P.R. Concept exploration and assessment of alternative high speed ferry types. Fast '97, Sydney, Australia, July 1997.
- Couser, P. An investigation into the performance of high-speed catamarans in calm water and waves. PhD thesis, Department of Ship Science, University of Southampton. May 1996.
- Molland, A.F., Wellicome, J.F. and Couser, P.R. Resistance experiments on a systematic series of high-speed displacement catamaran forms: Variations of length-displacement ratio and breadth-draught ratio. Transactions, Royal Institution of Naval Architects, 138A. 1996.
- Couser, P., Hudson, D., Price, W.G. and Temarel, P. Prediction of hydrodynamic loads and motions of a high-speed catamaran in regular waves. High Speed Marine Vehicle Symposium, Napoli, Italy 1995.
- Wellicome J.F., Temarel P., Molland, A.F. and Couser P.R. Experimental measurements of hull pressures on fast displacement catamarans during motions in long-crested head-seas. Ship Science Report 92, Department of Ship Science, University of Southampton. December 1995.
- Wellicome J.F., Temarel P., Molland, A.F. and Couser P.R. Experimental measurements of the seakeeping characteristics of fast displacement catamarans in long-crested head-seas. Ship Science Report 89, Department of Ship Science, University of Southampton. December 1995.
- Molland, A.F., Wellicome J.F. and Couser P.R. Theoretical prediction of the wave resistance of slender hullforms in catamaran configurations. Ship Science Report 72, Department of Ship Science, University of Southampton. March 1994.
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