

THURSDAY 16TH FEBRUARY 2006 |

- 09.00 – 10:30 **SESSION 8: HULL AND RIG STRUCTURES** (Chair, Graeme Finch)
Designing Composite Structures for Slamming Loads
Mark Battley and Susan Lake
Optimal Rig Design Using Mathematical Programming
Jarrad Wallace, Andy Philpott, Michael O'Sullivan and Michael Ferris
Knowledge Based Engineering and Yacht Design
Rozetta Payne and Don Kelly
- 10:30 – 11:00 **MORNING BREAK**
- 11:00 – 12:00 **SESSION 9: DESIGN AND CONSTRUCTION** (Chair, Mark Battley)
Cost and Energy Assessment of a High Speed Ship
Magnus Burman, Balz Lingg, Stephan Villiger, Håkan Enlund, Anna Hedlund-Åström and Sven-Erik Hellbratt
High Performance Large Yacht Construction Using Product Data Models
Rolf Oetter, Patrick Cahill and Christopher Barry
- 12:00 – 13:00 **LUNCH**
- 13:00 – 13:45 **PRODUCT PRESENTATION: SKF CANTING KEEL SYSTEMS**
Strengths, Weaknesses and Possibilities of Current and Future Canting Keel Technologies
Pontus Claesson and Patric Elweroth
- 13:45 – 14:00 **CLOSING REMARKS**
- 14:00 – 17:30 **TECHNICAL VISIT**
University of Auckland Twisted Flow Wind Tunnel, Mt Wellington, Auckland
- 17:30 – 22:00 **CLOSING DINNER**
Dinner Cruise on the William C Daldy, hosted by High Modulus - Princes Wharf, Auckland

ORGANISING COMMITTEE |

Mr Michael Eaglen, High Modulus (Chair)
Dr Mark Battley, Applied Engineering Research
Mr Graeme Finch, Finch & Associates
Prof. Richard Flay, University of Auckland
A. Prof. Peter Richards, University of Auckland (Tech. Chair)
Mrs Susan Lake, High Modulus
Mr David Le Pelley, University of Auckland



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MONDAY 13TH FEBRUARY 2006

18:00 – 21:00 REGISTRATION AND OPENING COCKTAIL FUNCTION
Waterfront Bar and Cafe, Hobson Wharf, Auckland City

TUESDAY 14TH FEBRUARY 2006

08:00 – 09:00 REGISTRATION
University of Auckland Conference Centre, Symonds Street, Auckland City

09:00 – 10:00 OPENING SESSION
Conference Opening and Official Welcome
Opening Address

10:00 – 10:30 MORNING BREAK

10:30 – 12:30 **SESSION 1: COMPUTATIONAL FLUID DYNAMICS FOR SAIL DESIGN (Chair, Lars Larsson)**
RANSE Investigations of Downwind Sails and Integration into Sailing Yacht Design Processes
Kai Graf and Hannes Renzsch
Numerical Investigation on the Effects of Trim for a Yacht Rig
Bardo Krebber and Karsten Hochkirch
CFD Calculations on the Sail-like Three Dimensional Airfoil
Jaehoon Yoo, Jin Kim, Il-Ryong Park, Haeseong Ahn and Suak-Ho Van
The Challenging Turbulent Flows Past Downwind Yacht Sails + Practical Application of CFD to Them
Steve Collie and Margot Gerritsen

12:30 – 13:30 LUNCH

13:30 – 15:00 **SESSION 2: CANTING KEELS (Chair, Trevor Blakeley)**
Safety Considerations in Developing the Stability + Structural Requirements in the Volvo Open 70 Rule
Ian Campbell, Andrew Cloughton and Barry Deakin
Sink or Swing: The Fundamentals of Canting Keel Structures
Tom Cowan and Luke McEwen
Practical Aspects of Canting Keel Design, Construction and Analysis
Liz Tier, Merfyn Owen and Tim Sadler

15:00 – 15:30 AFTERNOON BREAK

15:30 – 17:00 **SESSION 3: TANK TESTING (Chair, Claudio Fassardi)**
Determination of Sailing Craft Added Masses for Hull-Keel Combinations by Acceleration Tank Tests
Albert Nazarov, Dmitry Dolinsky and Igor Agishev
Added Resistance in Short Reflected Waves – Sailing Hull
Magnus Tvette and Dariusz Fathi
Experimental Analysis of the Vertical Motions in Waves of an IACC Yacht with Calm Water
Optimized Bulb Shapes
Giorgio Contento, Matteo Ledri and Luca Codiglia

17:00 – 18:00 LIGHT REFRESHMENTS

18:00 – 19:30 PUBLIC LECTURE
Genetic Engineering for Ultimate Performance: The Design Process for the Wally 130' Sailing Yacht
Odo Giordo, Javier Soto Acebal, Claudio Fassardi and Michael Eaglen

WEDNESDAY 15TH FEBRUARY 2006

09:00 – 10:30 **SESSION 4: SAIL AERODYNAMICS – I (Chair, David Le Pelley)**
An Investigation of Aerodynamic Force Modelling for Yacht Sails using Wind Tunnel Techniques
Heikki Hansen, Peter Richards and Peter Jackson
Performance of a Spinnaker with Different Appendages – Wind Tunnel and Numerical Simulation
Philippe Planquart
Wind Tunnel Techniques for Investigation and Optimization of Sailing Yachts Aerodynamics
Fabio Fossati, Sara Muggiasca, Ignazio Maria Viola and Alberto Zasso

10:30 – 11:00 MORNING BREAK

11:00 – 12:30 **SESSION 5: SAIL AERODYNAMICS – II (Chair, Margot Gerritsen)**
The Use of Independent Supports and Semi-Rigid Sails in Wind Tunnel Studies
Peter Richards, David Le Pelley, Amelie Cazala, Matthew McCarty, Heikki Hansen and William Moore
Experimental Considerations in Pressure Measurements on Sails: Wind Tunnel and Full-Scale
Richard Flay and Scott Millar
Full Scale Investigation of One-Design Class Catamaran Sails
Pierpaolo Puddu, Natascia Erriu, F. Nurzia, A. Pistidda and A. Mura

12:30 – 13:30 LUNCH

13:30 – 15:00 **SESSION 6: ASPECTS OF PERFORMANCE PREDICTION (Chair, Ian Campbell)**
Sailboat Design by Response Surface Optimization
Claudio Fassardi and Karsten Hochkirch
The Performance and Controllability of Yachts Sailing Downwind in Waves
Giles Thomas, Dougal Harris, Yannick d'Armancourt and Iain Larkins
Design Process Automation for Sailing Yachts
Ulrich Remmlinger

15:00 – 15:30 AFTERNOON BREAK

15:30 – 17:00 **SESSION 7: CFD FOR HULL AND APPENDAGE DESIGN (Chair, Richard Flay)**
Motion Prediction of Ships and Yachts by Smoothed Particle Hydrodynamics
Bruce Cartwright, J. Xia, S. Cannon, D. McGuckin and P. Groenenboom
A CFD Validation Test Case – Wind Tunnel Tests of a Winglet Keel
Sofia Werner, Lars Larsson and Björn Regnström

19:30 – 22:30 CONFERENCE DINNER
Royal New Zealand Yacht Squadron, Westhaven Marina, Auckland City

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