Curtin
UNIVERSITY OF TECHNOLOGY

CMST

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THE NEWSLETTER OF THE CENTRE FOR MARINE SCIENCE & TECHNOLOGY

Welcome to the third Centre for Marine Science & Technology (CMST) newsletter.
The past six months since the last newsletter has been a very active one for CMST as you will see in the following stories.
Andrew Woods

CRC UPDATE

We are pleased to advise that the CRC supplementary bid "Toolkit for Shallow Coastal Water Benthic Habitat Assessment" in which CMST is a major participant has been granted an interview. If successful, the bid will provide approximately $3M funding over three years for benthic habitat assessment projects. John Penrose, Rob McCauley and Andrew Woods have all recently flown east to participate in preparatory meetings for the interview. The result of the 14 October interview will be known later this year.
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UNDERWATER SOUND

Underwater Sound Recorders
CMST is nearing completion of an innovative device capable of autonomously collecting large amounts of acoustic data under a range of sampling schemes. The CMST Underwater Sound Recorder (USR) can be deployed for up to two years and is particularly suited to long term monitoring of man-made and natural underwater sound. It has been successfully used for studies of biological sea noise (fish, whales, etc), physical sea noise (breaking waves), and a variety of man-made underwater sounds. Specifications for the USR are available from the CMST website:
www.curtin.edu.au/cmst

Marine Bio-Acoustics Activities
Rob McCauley has been busy with three recent trips to the Rottnest Trench to retrieve and deploy more equipment related to the monitoring of blue whale activity in that area. Rob's recent CMST seminar outlined some early results of this study. Another recent trip for Rob was to western Bass Strait to retrieve an underwater sound recorder deployed 7 months previously to study Blue Whale activity and shipping noise in the Otway Basin region.
The recent mystery regarding non-releasing Acoustic Releases has been solved. It was found that incorrect battery packs were supplied with the units when purchased from the manufacturer. The incorrect battery packs were incapable of providing the necessary current to disengage the release under load. The moral: if the battery pack includes a series resistor on the pack, think twice…
In August, Rob was invited to participate in a sub-meeting of the IWC (International Whaling Commission) in Wyoming, USA. Not surprisingly, Rob didn't find any whales in Wyoming… _
In August, Mal Perry, Justy Siwabessy, and Physics student Stephen Hicks travelled to Eden, NSW to deploy some underwater sound recorders to monitor the underwater noise generated during the installation of a new jetty.
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Ship Hydrodynamics
CMST's in-development under-keel clearance program KeelVis was recently exhibited by WNI (Weather News International) at the International Navigation Association (PIANC) conference in Sydney. KeelVis' purpose is to calculate the safe entry and exit windows of ships through restricted waterways.
CMST has a number of seakeeping trials scheduled over the next six months that will see the deployment of our motions and wave measurement systems. CMST routinely provides data acquisition and analysis services for both research and commercial clients. Typical requests include determination of Response Amplitude Operators (RAOs), significant displacements and accelerations, and wave field analysis. CMST is also able to assist clients with unusual or unique measurement and analysis problems.
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Underwater Technology
The compact underwater stereoscopic video cameras being developed for a UK company are nearing completion. The cameras will have a depth rating of 3000m (three thousand metres). There will be more news about the cameras in the next newsletter.
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Funding opportunities
We advised in the last CMST newsletter that CMST had two ARC Linkage Grant Applications under consideration by the ARC. The results were announced on 2 October. Curtin received a total of 9 ARC Linkage Grants but unfortunately our applications were not funded. We are awaiting feedback from the ARC. The next round of ARC linkage grants must be submitted by 15 November, for startup (if successful in July 2003). Full documentation on the ARC Linkage scheme is available at:
http://www.arc.gov.au/ncgp/linkage/default.htm
If you would like to explore Linkage Grant opportunities with CMST, please contact Andrew Woods at:
Director@cmst.curtin.edu.au
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CMST IN THE NEWS

Recent articles in the press or radio mentioning CMST or involving CMST staff include:

- "Pushing Stereoscopy: A Unique 3-D Video System" - American Cinematographer, September 2002.
- "Sun Yachts and Imp Catamarans assist in Multihull Research" - Multihull World magazine, Issue #57, August 2002.
- "Scientists fathom fish speak" - The West Australian, pg.3, Saturday 10th August 2002.
- "BIG BLUE" - The Bulletin, 26 June 2002.
- "Seismic Testing in Marine National Parks" - Earthbeat, ABC Radio National, 22 June 2002.
- "Noisy Fish" - The Science Show, ABC Radio National, 16 February 2002.

Many of these articles are available in full text via our website.

UPCOMING CMST SEMINARS

CMST holds regular seminars on marine science & technology topics – all welcome. All CMST seminars are held at Curtin University, Building 301, Room 147 and start at 12:10pm. Bring your lunch – everyone else does.

REED BOAT TESTING
15 Oct Tony Armstrong, Austal Ships

ROV MODELLING
22 Oct Peter Henley, CMST

ROLL MOTION REDUCTION FOR YACHTS
29 Oct Colin Ayres, Sun Yachts Pty Ltd

USING A TOWED ARRAY TO CHARACTERISE THE UNDERWATER ACOUSTIC NOISE RADIATED BY THE TOW-VESSEL
5 Nov Alec Duncan, CMST

12 Nov To be advised

STRIP THEORY FOR SHIPS IN ROUGH SEAS
19 Nov Jinzhu Xia, CMST

If you would like to receive email updates regarding CMST seminars, please send an email to <Seminars@cmst.curtin.edu.au> to join our mailing list.

STAFF MOVES

As of 1 July, Andrew Woods has taken over the Directorship of CMST. Kim Klaka has now returned to full-time PhD studies. Dr. Quanming Miao has joined us from the Hong Kong University to work on the ARC Discovery Project "Hydroelasticity of Offshore Structures" being headed by Jinzhu Xia.
Dr. Tim Gourlay (currently with the Australian Maritime College in Launceston) has been appointed to the Centre of Excellence funded position in Hydrodynamics. He will join us in December.
Dr. Alexander (Sasha) Gavrilov (currently with the Russian Academy of Science in Moscow) will join us in December or January to take up the position of Professor of Marine Acoustics.
Dr. Alexander Kritski left us in July to take up a position with Statoil Research Centre in Norway – we wish Alexander good luck with his new position.

MARINE SCIENCE & TECHNOLOGY AT CURTIN BROCHURE

The Office of R&D at Curtin has recently produced a brochure outlining the various marine related research being conducted at Curtin. If you haven't already received a hard copy of the brochure, you can download a copy from our website. CMST is the largest marine research group at Curtin.

NEW UNDERWATER ACOUSTICS BOOK

A new book titled "Underwater Acoustic Digital Signal Processing and Communication Systems" has just been published by Kluwer Academic Publishers. The book features a chapter penned by CMST's John Penrose and Tim Pauly titled "Statistical Processing of Echo Ensembles".

For further information contact:

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