

Institute of Acoustics

4th International Conference on Bio-Acoustics 2007

April 10-12, 2007
Loughborough, UK

Volume 29
Part 3

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

ISBN: 978-1-60423-808-2

Some format issues inherent in the e-media version may also appear in this print version.

Institute of Acoustics

4th International Conference on Bio-Acoustics
2007

TABLE OF CONTENTS

MARINE MAMMALS - 1

Using Time Synchronized Low Power Autonomous Recorders For Marine Mammal Acoustic Localization.....	1
<i>A.M. Thode, W.C. Burgess, C. Tiemann, P. Gerstoft, J. Straley, V. O'connell, M. Noad</i>	
Speech Transmission Index: Computer Simulation And Recent Standard Developments In Germany.....	13
<i>T. Steinbrecher</i>	
Click Train Characteristics In River Dolphins In Brazil	22
<i>N.J.C. Tregenza, A.R. Martin, V.M.F. Da Silva</i>	
100-μS Time Interval Of The Bottlenose Dolphin Auditory System	30
<i>G. Zaslavski</i>	
Intensity Variations Of Emitted Pulses By Dolphin Could Be An Adaptive Mechanism Providing Auditory Peripheral Encoding Of Received Echo Signals	38
<i>L.K. Rimskaya-Korsakova</i>	

TECHNIQUES

The Echolocation Of Free-Ranging Kamchatkan Killer Whales In Different Contexts	46
<i>O.A. Filatova, E.M. Lazareva, I.D. Fedutin, M.M. Nagailik, A.M. Burdin, E. Hoyt</i>	
Bottlenose Dolphin (<i>Tursiops Truncatus</i>) Phonations: How Recording And Usage Are Related.....	51
<i>C. Bazúa-Durán, A. Herrera-Hernández</i>	
The Performance Of The Spud Algorithm Detecting Harbour Porpoise (<i>Phocoena Phocoena</i>) Echolocation Clicks.....	55
<i>E.J. Harland</i>	
Acoustic Touch Screen For Dolphins	63
<i>J. Starkhammar, M. Amundin, H. Olsen, M. Ahlqvist, K. Lindstrom, H.W. Persson</i>	

LAND MAMMALS

Robust Infield Automated Bioacoustic Identification Of Species For Rapid Biodiversity Studies	69
<i>D. Chesmore</i>	
Massive Mallei In Moles: Middle Ear Adaptations Subserving Seismic Sensitivity	77
<i>M.J. Mason</i>	
Developing Acoustic Telemetry Systems For Terrestrial Mammals: A Brief Program History	85
<i>P.U. Alkon</i>	

BATS

Invited Paper

Adaptive And Evolutionary Aspects Of Call Design In Echolocating Bats.....	93
G. Jones, C.J. Baker	
Bioinspired Range Finding Algorithm (Bira): Analysis, Requirement And Applicability	108
Frederic Devaud, Prof. Gordon Hayward, Prof. John Soraghan	
Experimental Method For The Acoustical Modelling Of The Echolocation Process In Bats.....	116
T. Papadopoulos, R. Allen	

MITIGATION

A Cumulative Exposure Model For Assessing The Impact Of Underwater Sound On Marine Fauna – Implications Of New Audiograms	124
S.A.S. Jones	
The Use Of A Gas Bubble Curtain And Encapsulated Air Foam To Reduce The Received Sound Levels For Marine Mammals Close To Impulsive Sound Sources	132
P.A. Lepper, K. Lucke, M-A. Blanchet, U. Siebert	
Passive Acoustic Localization Of Marine Mammals From Mobile Platforms	140
S.D. Richards, Da Miles, T. Clarke, E.J. Harland	
The Effect Of Different Arrayconfigurations On The Accuracy Of Passive Acoustic Location On Cetaceans	148
J. Vallarta, R. Mchugh, P. Record	
Passive Azimuth Localization Of Dolphin Whistles Using Acoustically Small Sensors	156
P.F. Dobbins, D.P. Nowacek	

VOCALISATION

The Importance Of Echosignal Temporal Microstructure In Classification Of Smallsize Targets By Bottlenosed Dolphins	164
K.A. Zaitseva, V.I. Korolev, A.V. Akhi	
Emotion Transfers Through Transmission Of Vocal Messages In Mice	170
M.A. Vassiliadis, C. Theochari, P. Georgiakakis, V. Boura, I. Athanassakis, S. Kouzoupis	
Reproductive Vocalisations Of The Degu (<i>Octodon Degus</i>): A Communally Nesting Caviomorph Rodent.....	178
C.V. Long	

BIRDS

Invited Paper

Detection And Discrimination Of Complex Sounds By Birds In Quiet And Noise	184
R. Dooling	
A Method For Bird Song Segmentation And Pairwise Distance Measure Of Syllables And Songs.....	192
L. Ranjard, H.J. Ross	

INSECTS

Invited Paper

- Pulses Patterns Paths: Auditory Processing In Crickets** 201
B. Hedwig

- Automated Bioacoustic Detection And Identification Of Woodboring Insects For Quarantine Screening And Insect Ecology** 209
I. Farr, D. Chesmore

FISH AND CRUSTACEA

- On Clicking Sounds In Uk Water And A Preliminary Study Of Their Possible Biological Origin.....** 217

D.C. Finfer, P.R. White, T.G. Leighton, M. Hadley, E. Harland

- The Hearing Abilities Of The Prawn *Palaemon Serratus*** 225
J.M. Lovell, M.M. Findlay, R.M. Moate, H.Y. Yan

- Preliminary Investigation On Sound Production By Two Fish Species: *Sparus Aurata* And *Dicentrarchus Labrax*** 233

S. Kouzoupis, P. Papadakis, V. Boura, I. Xezonakis, M. Kentouri

- Behaviour of Fish in Noisy Environments** 241
S.D. Simpson

- Are Twaite Shad Able To Detect Sound At A Higher Frequency Than Any Other Fish? Results From A High Resolution Imaging Sonar** 249

J. Gregory, M. Lewis, J. Hateley

MARINE MAMMALS - 2

Invited Paper

- Current Research Trends In Cetacean Bioacoustics** 257
D.S. Houser

- On The Bandgap Theory Of Hearing In The Atlantic Bottlenose Dolphin.....** 268
S.A. Dible, J.A. Flint, P.A. Lepper

- Classification Of Bottom-Set Targets From Wideband Echo Responses To Bio-Inspired Sonar Pulses.....** 276
C. Capus, Y. Pailhas, K.E. Brown

AUTHOR INDEX