

**FINAL ANNOUNCEMENT**



Industry &  
Investment

**The 4<sup>th</sup> International Oyster Symposium (IOS4)**  
Embracing the Future through Innovation

15 – 18 September 2011

Hobart, Tasmania, Australia

**ORGANISERS**

The World Oyster Society  
Oysters Tasmania  
NSW Industry and Investment

**PRINCIPAL SPONSOR**



## ORGANISING COMMITTEE

Dr Katsuyoshi Mori

Dr Tom Lewis

Dr Wayne O'Connor

Raymond Murphy

## INTERNATIONAL ADVISORY COMMITTEE

### Chairman

Dr Katsuyoshi Mori      President, The World Oyster Society  
Professor Emeritus, Tohoku University, Japan

### Members - (in alphabetical order of family names)

Dr Nejla Aloui-Bejaoui      Professor, National Institute of Agronomy, Tunisia

Dr Pierre Boudry      Geneticist, Physiologie et Ecophysiologie des Mollusques Marins, IFREMER, France

Dr Kwang-Sik Choi  
(Albert)      Professor, School of Applied Marine Science, Cheju National University, Republic of Korea

Dr Fu-Lin E. Chu      Professor Emeritus, Virginia Institute of Marine Science, USA

Dr Ximing Guo      Professor, Haskin Shellfish Research Laboratory, Institute of Marine and Coastal Sciences, Rutgers University, USA

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Dr René E. Lavoie      Scientist Emeritus, Bedford Institute of Oceanography, Canada

Dr Kuo-Tien Lee      Professor and President, National Taiwan Ocean University, Taiwan

Dr Tom Lewis      Executive Officer, Oysters Tasmania, Australia

Dr Qi Li      Professor, Fisheries College, Ocean University of China, China

Dr Wayne A. O'Connor      Senior Research Scientist, New South Wales Department of Primary Industries' Port Stephens Fisheries Institute, Australia

Dr David Raftos      Associate Professor, Department of Biological Sciences, Macquarie University, Australia

Dr René Robert      Head, The Molluscs Experimental hatchery of Argenton (Britanny), IFREMER, France

Dr Wei-Cheng Su      Director General, Fisheries Research Institute, Council of Agriculture, Taiwan

Dr Ketut Sugama      Director General of Aquaculture, Ministry of Marine Affairs and Fisheries, Republic of Indonesia, Indonesia

Dr Keisuke Takahashi      Associate Professor, Graduate School of Agricultural Science, Tohoku University, Japan

Dr Aswani K. Volety      Professor, Marine and Environmental Science, Florida Gulf Coast University, USA

Dr Mitsugu Watanabe      President, Watanabe Oyster Laboratory CO., LTD.,  
Councillor, Oyster Research Institute, Japan

Dr Noel P. Wilkins      Professor, Department of Zoology, National University of Ireland, Galway, Ireland

Dr Xinzhong Wu      Professor, College of Animal Sciences, Zhejiang University, China

Dr Mamoru Yoshimizu      Professor, Graduate School of Fisheries Sciences, Hokkaido University, Japan

## THEME OF THE SYMPOSIUM

Embracing the Future through Innovation

## OBJECTIVES

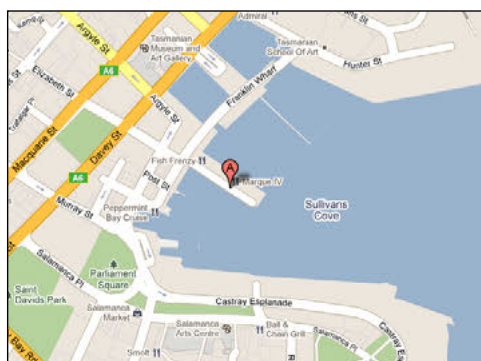
- Innovation in supply
  - Improving hatchery seed supply and seed quality
  - Improving oyster production through breeding programs
- Innovation through diversification
  - Producing better oysters
  - Producing new species
- Innovation in a changing environment
  - Managing risks caused by:
    - Climate change
    - Heavy metals
    - Endocrine disrupting chemicals
    - Biotoxins
    - Oyster diseases
- Innovation in promotion, handling and marketing
  - Improving human health
  - Increasing shelf life
  - Improving retail packaging
  - Building social licence

## SCHEDULE

15 September 2011	Symposium Sessions <ul style="list-style-type: none"><li>• BBQ dinner &amp; farm tour</li></ul>
16 September 2011	Symposium Sessions
17 September 2011	Symposium Sessions - <b>shellfish futures 2011</b> <ul style="list-style-type: none"><li>• Symposium and conference dinner</li></ul>
18 September 2011	Post-symposium Tours, or, Free Hatchery Tour

## THE SYMPOSIUM VENUE

Hobart Function and Conference Centre, 1 Elizabeth St Pier, Hobart, Tasmania, Australia



## SECRETARIAT

The 4<sup>th</sup> International Oyster Symposium

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## KEYNOTE SPEAKERS

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### Dr Stan Allen

Professor of Marine Science, College of William and Mary, VIMS

Director of the Aquaculture Genetics and Breeding Technology Center, VIMS



Stan received his BA from Franklin and Marshall College in Biology in 1972, and then went on for a Master's from the University of Maine. He got his Ph.D. at the College of Fisheries at the University of Washington in 1987. His research in Washington was on the commercialization of triploidy, a genetic technique used in domestication of plants and animals, for oyster culture. After a short post-doc at the University of Maryland's Center of Marine Biotechnology from 1987 – 1988, he got a position as Assistant Professor at Rutgers University in New Jersey. At Rutgers he built a breeding and research program at the New Jersey Agricultural Experiment Station. In 1993, he co-developed the process for producing tetraploid shellfish, patented in over half a dozen countries. Stan spent 9 years at Rutgers before coming to the

Virginia Institute of Marine Science in 1998. At VIMS, Stan established and is Director of the Aquaculture Genetics and Breeding Technology Center (ABC), a new research arm at VIMS, its formation enabled by the passage an initiative in 1997 by the General Assembly. Work at ABC has lead directly to the growth of oyster aquaculture in Virginia, which now exceeds wild catch and continues to grow. In an interesting twist of fate, triploids are more popular in Virginia for oyster culture than anywhere else, comprising 80% of production.

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### Angus Cameron

Director, AusVet Animal Health Services



Angus graduated from veterinary science from the University of Sydney in 1988, and gained his Masters of Veterinary Studies from the University of Melbourne in 1992. He was granted membership of the Australian College of Veterinary Scientists by examination in the area of dairy cattle medicine in 1994. He went on to undertake research for his PhD between 1994 and 1998, developing appropriate surveillance systems for use in developing countries, during which he was based in Thailand and Laos. He joined AusVet Animal health Services as a Director in 2000.

Angus is an Australian epidemiologist with special interest in the areas of surveillance, freedom from disease, health information systems, epidemiological data analysis, geographical information systems, epidemiological training, application of epidemiological

techniques in developing countries and data analysis. He works across of a range of species, including human health, livestock and aquatic animals, in Australia and internationally. In addition to numerous consultancies for government, regional and international organisations, he has been a member of two World Organisation for Animal Health (OIE) working groups responsible for the development of standards for terrestrial and aquatic animal disease surveillance.

Angus has extensive training experience ranging from advanced workshops on the analysis of surveillance data through to basic survey skills for field officers in developing countries. He speaks French, Thai, Lao and German at varying levels of proficiency.

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## Phil Lamb

Managing Director of Spring Bay Seafoods



Spring Bay Seafoods are a Tasmanian based shellfish company operating on the East Coast of Tasmania, 100 kilometres north of the island state capital, Hobart. Spring Bay Seafoods is one of Australia's largest mussel producers, marketers and exporters.

Spring Bay Mussels are Certified Sustainable (Friend of The Sea) and Certified Organic (NASAA). The company has won numerous awards for its product business and environmental credentials.

Spring Bay Seafoods is the only mussel producer in Australasia to have developed the know-how and capacity to produce juvenile mussel spat in its own bivalve hatchery, located at their land base on the shores of Spring Bay.

Spring Bay Seafoods occupies a unique position as a vertically integrated shellfish company with its own bivalve hatchery producing mussels and recently oysters.

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## Dr Qi Li

Professor, Associate Dean, College of Fisheries, Ocean University of China, Qingdao, China



Dr. Li received his BSc (1988) and Master (1991) degrees in aquaculture at Ocean University of China. He then obtained his PhD in fisheries in 1997 from Tohoku University, Japan. His postdoctoral work in shellfish genetics was performed at Education and Research Center of Marine Bio-resources, Tohoku University. He became a professor at Ocean University of China in 2000 and established his own research group within Key Laboratory of Mariculture, Ministry of Education. His main research interests include shellfish genetics and breeding, and reproductive biology. He has authored over 120 peer-reviewed papers in these areas.

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## Lester Marshall

Coffin Bay Oysters



Lester has been oyster farming in Coffin Bay for the past 20 years and has been involved in all aspects of the industry, having built the business up from nothing to some 350 tons of oysters a year and distributing them throughout Australia. He is a Director on the Eyre regional development board and has spent the past seven years developing a regional brand for the Eyre Peninsula.

In 2007, Lester applied for and won a Nuffield Scholarship, his study topic being “how to develop a regional brand”. He travelled to 15 different countries over the course of this scholarship and completed a report in November 2009. Lester is witnessing the rise of global culinary tourism and is in the process of developing a seafood story book that describes the

aroma, texture and flavours of seafood from Eyre Peninsula ‘Australia’s seafood frontier’.

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## Dr Len Stephens

Dip Agr Sci, BVSc, MSc, PhD

*Current Positions*

Managing Director – The Seafood CRC Ltd (Appointed July 2007)

A cooperative research centre involving 28 industry and scientific partners investing \$145million over seven years.



Company Director – Dairy Australia Ltd (Appointed November 2007 – November 2010)

The principal company responsible for funding and managing research, marketing and trade development for the Australian dairy industry.

Fellow of the Australian Institute of Company Directors

*Previous Positions and Experience*

Chief Executive Officer, Australian Wool Innovation Ltd (2003 – 2006)

With staff in six countries, AWI provides marketing support for Australia’s \$3billion Merino wool export industry and conducts research to improve the production and processing of wool.

General Manager, Meat & Livestock Australia Ltd (1996 – 2003)

Part of the Executive team that established MLA, the company responsible for research, marketing and promotion on behalf of Australia’s beef and lamb producers. Responsible for all the applied livestock production R&D across Australia.

Director, Victorian Institute of Animal Science (1987 – 1996)

Inaugural Director of VIAS, established by the Victorian Government to provide veterinary diagnostic services, biotechnology and a wide range of R&D programs.

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## **Bruce Zippel**

President, South Australian Oyster Growers Association

President, Shellfish Industry Council of Australia

Past-President, National Aquaculture Council

Founding-President, South Australian Aquaculture Council



Bruce is an active grower in the Zippel family oyster farms at Smoky Bay and Saint Peters Island in South Australia. Has been active in representing the Australia and South Australian seafood industries as well as the oyster industry at a range of levels. A past member of the Premiers Food Council and Aquaculture Advisory Committees in South Australia, as well as being the facilitator and founding director for establishment of the South Australian Oyster Research Council. Bruce is a past member of Australia's Aquaculture Action Agenda Committee, and also chaired the Aquaculture sub-committee of Seafood Training Australia that established the Qualifications Framework and Aquaculture component of the Australia's first Seafood Industry Training package.



## SYMPOSIUM PROGRAM

Thursday 15 September 2011

		Speaker	Title
<b>Chair: Tom Lewis</b>			
8:00	9:00		Registration
9:00	9:05	Tom Lewis	General Welcome
9:05	9:15	Prof Katsuyoshi Mori	Welcome to the 4 <sup>th</sup> International Oyster Symposium
9:15	9:20	Hon Bryan Green	Opening
		<b>Keynote 1</b>	
9:20	10:00	Bruce Zippel	The Australian and New Zealand oyster industry
10:00	10:30		<i>Break and poster viewing</i>
<b>Chair: Nick Elliott</b>		<b>Topic: Innovation in Supply</b>	
		<b>Keynote 2</b>	
10:30	11:00	Stan Allen	The evolution of and prognosis for commercialization of tetraploid oysters around the world
11:00	11:20	Penny Miller	Development of tools for the sustainable management of genetics in polyploid Pacific oysters ( <i>Crassostrea gigas</i> )
11:20	11:40	Sheng-Tai Hsiao	Sequence polymorphism from mitochondrial noncoding region of the Portuguese oyster <i>Crassostrea angulata</i> in Taiwan
11:40	12:00	Tim Green	Genetic immunity and disease resistance in Sydney rock oysters
12:00	13:30		<i>Lunch and poster viewing</i>
<b>Chair: Wayne O'Connor</b>		<b>Topic: Innovation in Diversification</b>	
		<b>Keynote 3</b>	
13:30	14:00	Qi Li	Mass selection for fast growth in the Pacific oyster <i>Crassostrea gigas</i> in China
14:00	14:20	Aileen Tan Shau-Hwai	Oyster farming in Malaysia in relation to other Asean countries: challenges and successes
14:20	14:40	Mitsugu Watanabe	Identification of anti-oxidant substance from Pacific oyster ( <i>Crassostrea gigas</i> ) and analysis of

			anti-oxidant capacity
14:40	15:00	Stephen O'Connor	Advances in hatchery production of flat oyster <i>Ostrea angasi</i>
15:15	22:00		<b><i>Tas Prime Oysters BBQ dinner and farm tour</i></b>

## Friday 16 September 2011

		Speaker	Title
<b>Chair: Tom Lewis</b>			
8:00	8:30		Registration
8:30	9:00	Department of Innovation Industry Science and Research	Welcome
<b>Chair: David Raftos</b>			<b>Topic: Risk in a Changing Environment</b>
9:00	9:30	<b>Keynote 4</b> Angus Cameron	OsHv1
9:30	9:50	Peter Kirkland	OsHv1 in NSW
9:50	10:10	David Raftos	Phenoloxidase phenotypes are associated with mortality in families of Sydney rock oysters produced by single-pair mating
10:10	10:30	Emma Thompson	Effects of metal contamination on Sydney rock oysters: a proteomic approach
10:30	11:00		<i>Break and poster viewing</i>
<b>Chair: Stan Allen</b>			<b>Topic: Risk in a Changing Environment</b>
11:00	11:30	Graeme Knowles	The effect of environmental stress on the Pacific oyster <i>Crassostrea gigas</i> : freshwater flooding and the effects of abrupt low salinity
11:30	11:50	Yuki Okada	Multiple mantle lysozymes in the Pacific oyster serve important role for host-defense under broader environmental conditions
11:50	12:10	Naoki Itoh	An abnormal enlargement of the ovary in the Pacific oyster - and old and recurring problem in oyster culture industries of Japan

12:10	12:30	Eric Guevelou	Molecular pathways involved in the gametogenesis of Pacific oysters <i>Crassostrea gigas</i>
12:30	12:45	Prof Katsuyoshi Mori	Poster summary and award
12:45	14:00		Lunch and poster viewing
		<b>Chair: Mike Cameron</b>	<b>Topic: Innovation in Marketing and Handling</b>
14:00	14:30	<b>Keynote 5</b> Lester Marshall	Promotion, handling and marketing
14:30	14:50	Maeva Cochet	Sensory and physicochemical assessment of <i>Crassostrea gigas</i>
14:50	15:10	Anthony Woollams	Selling regional characteristics of wine to the consumer
15:10	15:30	Felicity Brake / Cath McLeod	Spatial and temporal distribution of norovirus and <i>E. coli</i> in oysters after a sewage overflow into a river
15:30	16:00		Break and poster viewing
		<b>Chair: Mike Cameron</b>	<b>Topic: General Innovation</b>
16:00	16:20	Ana Rubio	Monitoring our oysters using automated oyster graders
16:20	16:40	Malcolm Brown	Rapid prediction of oyster biochemical composition using visible-near infrared reflectance spectroscopy (VNIRS)
16:40	17:00	Pham Ahn Tuan/Le Xan	Vietnam oyster industry
17:00	17:15	Tom Lewis	Close

## Saturday 17 September 2011

			<b>shellfish futures - Innovations in industry</b>
		<b>Speaker</b>	<b>Title</b>
<b>Chair: Tom Lewis</b>			
8:00	9:00		Registration
9:00	9:15	Tom Lewis	Welcome to 'shellfish futures 2011'
9:15	9:45	<b>Keynote 6</b> Len Stephens	Innovations from the Australian Seafood CRC

9:45	10:15	<b>Keynote 7</b> Phil Lamb	Marketing innovations in shellfish - mussels
10:15	10:55		<i>Break and poster viewing</i>
<b>Chair: James Calvert</b>			
10:50	11:15	Peter Kube	Pacific oyster selective breeding - past, present and future
11:15	11:40	Tom Madigan	Modified atmosphere packaging of half shell Pacific oysters
11:40	12:05	Mark Tamplin	Oyster Shelf-Life = Time and Temperature
12:05	12:30	Shane Comiskey	Benchmarking the Australian oyster industry
12:30	14:00		<i>Lunch and poster viewing</i>
<b>Chair: Giles Fisher</b>			
14:00	15:30	Angus Cameron / Wayne O'Connor (Facilitators)	<b>Workshop (sponsored by Cameron's of Tasmania)</b> "Pacific Oyster Mortality Syndrome (POMS) - industry update and actions"
15:30	16:00		<i>Break and poster viewing</i>
<b>Chair: Ben Cameron</b>			
16:00	16:15	TSEC Chair	What's happening now in Tasmania
16:15	16:30	NSW OC Chair	What's happening now in New South Wales
16:30	16:45	SAOGA Chair	What's happening now in South Australia
16:45	17:15	Industry Young Leaders group	Busting boundaries: opportunities & challenges
17:15	17:30	Tom Lewis	Close
19:00	23:00		<b><i>Symposium Dinner &amp; Grand Auction – Hobart Function and Convention Centre</i></b>

**Please Note: Program is subject to change**

## **Sunday 18 September 2011**

<i>Please note: Each tour time will differ</i>	<b><i>Shellfish Culture Limited Free Hatchery Tour, or, Post-Symposium Tours</i></b>
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## SYMPOSIUM POSTERS

15 - 17 September 2011

### Posters - confirmed

Presenting author	Title
Penelope Ajani	Risk-taxa and risk-zones: latitudinal diversity, seasonal periodicity and estuary susceptibility in relation to toxic phytoplankton in the oyster-growing estuaries of New South Wales, Australia
Said Al-Bawani	Heavy metals in rock oysters <i>Saccostrea cucullata</i> and brown mussels <i>Perna perna</i> from the Arabian Sea and Sea of Oman
Megan Andrew	The Sydney rock oyster <i>Saccostrea glomerata</i> as a biomonitor of estrogenic compounds
Luc Comeau	The effect of silt deposits on the spring awakening of eastern oysters in the gulf of Saint Lawrence, Canada
Michael Dove	Progress, transitions and challenges in the Sydney rock oyster breeding program
Tomomi Hagiwara	Effect of the food containing oyster extract on stress, fatigue and quality of sleep in working persons
Jens Knauer	Hatchery, nursery and grow-out culture of two tropical oyster species in the Northern Territory, Australia
Rhiannon Kuchel	Noradrenaline induces apoptosis of Akoya pearl oyster haemocytes
Dung Le Viet	SWOT analysis - Innovative approach to sustainable oyster culture in Vietnam
Emiko Miki	Clinical efficacy of Pacific oyster extract on sperm profiles in healthy male subjects
Wayne O'Connor	Cold shock control of biofouling
Wayne O'Connor	Comparative accumulation and depuration of paralytic shellfish toxins in Pacific oysters <i>Crassostrea gigas</i> and Sydney rock oysters <i>Saccostrea glomerata</i>
Ana Rubio	Oyster information portal – a novel tool for improved oyster industry management, governance and knowledge
Keisuke Takahashi	Digestive enzyme activities in the digestive diverticula of the pacific oyster, <i>Crassostrea gigas</i>
Daisy Taylor	Effects of metal contamination on the expression of immune- and stress- response genes in Sydney rock oysters
Alison Turnbull	Long-term management of Paralytic Shellfish Toxins in Tasmania
Lexie Walker	Mudworms in Australia – What's in a name?
Robin Warner	Oysters in a changing climate: strengthening resilience through effective governance responses
Emma Wilkie	Space Invaders: <i>Crassostrea gigas</i> not presently replacing native oysters along QX disease - infected rocky shores
John Wright	Predicting the physiological response of oysters to climate change

Ziniu Yu	Population genetics of <i>Crassostrea hongkongensis</i> along the coast of South China Sea inferred from mitochondrial genes and microsatellite loci
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### Posters - to be confirmed

Matthew Brown	Automation & grading equipment, why and what's next?
Matthew Cunningham	Application of visible-near infrared reflectance spectroscopy (VNIRS) in the assessment of Pacific oyster condition
Mohamed Houmed Aboubaker	Establishment of stable GFP-tagged <i>Vibrio aestuarianus</i> strains for the analysis of bacterial infection-dynamics in the Pacific oyster, <i>Crassostrea gigas</i>
Yusuke Iidzuka	Genetic diversity of Pacific oyster in Japan
Ma'ruf Kasim	Food sources of the oyster ( <i>Crassostrea gigas</i> ) and the clam ( <i>Ruditapes philippinarum</i> ) in the Akkeshi-ko estuary
Kadek Mahardika	Larvae culture experiment on mangrove oyster <i>Saccostrea cucullata</i> at Bali, Indonesia
Cath McLeod	Developing norovirus resistant oysters
Bay Phung	Experimental triploid oyster production by chemical induction
René Robert	Improvement of hatchery mollusk seed production: REPROSEED European project
Apri Supii	Study of reproductive biology <i>Saccostrea cucullata</i> , in Serangan Coastal, Bali Indonesia
Tomomi Tanaka	Genetic diversity of Suminoe oyster in Ariake Sea, Japan
Chiew Peng Teh	Influence of serotonin and norepinephrine on induction of larvae settlement of tropical oyster larvae, <i>Crassostrea iredalei</i>

**Please Note: Program is subject to change**

## ASSOCIATED WORKSHOPS

### Wednesday 14 September 2011

**Industry workshop – Oyster Information Portal; a tool to assist the oyster industry in future planning and adaptation to a changing climate**

13:00 – 16:30      Contact: Ana Rubio [arubio@uow.edu.au](mailto:arubio@uow.edu.au)

### Sunday 18 September 2011

**Australian Seafood CRC Oyster Consortium  
Pacific Oyster Mortality Syndrome (POMS) R&D meeting**

09:00 – 12:30      Contact: Rachel King [rkoyster@yahoo.com.au](mailto:rkoyster@yahoo.com.au)