



# Fish Health Section

## Asian Fisheries Society

### Remarks from the Past Chairperson (2002-2005)

From the beaches of Surfer's Paradise (DAA V) to the waters of Colombo (DAA VI), the period 2002-2005 passed like a flick of a finger. We saw some changes in the operation of the FHS. Starting with a quite serious meeting in Brisbane, some major targets were identified. We attempted and achieved a few of what was originally planned.

An electronic newsletter was initiated; 6 issues released between 2003 and 2004; none in 2005 as we got immersed into preparations for DAA VI and maintenance of the DAA VI interactive website ([www.daasix.org](http://www.daasix.org)).

Our membership increased by 43 during the period 2002 until shortly before DAA VI. However, we lost 4 beloved members, Barry Munday (Australia, 1933-2003), Roselyn Duremdez-Villaruz (Philippines, 1960-2003), Akmad Rukyani (Indonesia, 1946-2004), and Chris Baldock (Australia, 1947-2005). What is important, though, is that we are still growing and the memories and contributions of our colleagues will remain in our hearts.

Thanks to DAA V and DAA VI, we have recovered what we lost in DAA IV and our finances are back on track and now fairly stable as before.

Business as usual, the FHS was represented in many activities/conferences/events related to aquatic animal health as members continue with their individual work and corporate responsibilities tackling existing national, regional and international disease concerns. Between 2002 and 2005, our region experienced another string of disease incursions, the most serious is Koi herpes virus (KHV) in 2002 and we've seen how it spread to Indonesia, Japan and Thailand. Some other diseases have emerged, e.g., viral disease of abalone in China and Taiwan, a new outbreak of WSSV in Iran, White Tail disease of *Macrobrachium* in India, to mention a few.

As a professional society, in our different capacities as educators/academicians/trainers, diagnosticians,

scientists/researchers, policy makers and development specialists, we hope that we may continue to assist in finding solutions to this seemingly incessant disease invasion. We are continuously challenged and our task continues...

On another important issue, between February and March 2006, a general referendum was undertaken to decide on the fate of DAA publication series. This resulted in a majority of the members voting to retain the original publication format of DAA. We earnestly hope that our members and DAA supporters will continue to support the DAA book series by contributing one paper every three years. This represents less than 10% of the published scientific output of a moderately productive researcher – a small price to pay to assist our society in maintaining our tradition. On our part, we will endeavour to produce DAA to a high quality in a timely fashion and to make it as widely accessible as possible in support of the current "open archive movement" that enables science to be readily available to all.

On behalf of the FHS ExeCom 2002-2005, we extend this belated **THANK YOU** to the general membership for their continued support to the society's undertakings particularly all those who contributed to the success of DAA VI; and a **warm welcome** and **best wishes** to the new FHS ExeCom 2005-2008 lead by T Aoki and CF Lo.

To end this note, we are pleased to share this first issue of the rehashed FHS Electronic Newsletter, as our way of communicating with our members and partners, to bring news, events and developments, at least twice a year, until our next flight to DAA VII.

This is a special issue, nothing technical, only about people and events.

Dr. Melba B. Reantaso  
FHS ExeCom Chairperson 2002-2005



### FHS ExeCom 2005-2008



Left to Right: Jimmy Turnbull, Brian Jones, Arun Padiyar, Flavio Corsin, Mangalika Hettiarachchi, Sharon McGladdery, Melba Reantaso, Chu Fang Lo, and Takashi Aoki.  
Not in photo: Suppalak Puttinaowarat and Dang Oanh

### FHS ExeCom 2002-2005



Left to Right (seated): Peter Walker, Melba Reantaso, Takashi Aoki, Supranee Chinabut; standing: Indrani Karunasagar, Agus Sunarto, Pornlerd Chanratchakool, Chu Fang Lo, Mangalika Hettiarachchi, and Celia Lavilla-Pitogo



## FHS/AFS Executive Committee (2005-2008)

The FHS/AFS Executive Committee for the period 2005-2008 was elected during the Seventh Triennial General Meeting (TGM-7) held in Colombo, Sri Lanka on 25 to 28 October 2005 in conjunction with the Sixth Symposium on Diseases in Asian Aquaculture (DAA VI), a triennial symposia organised by the FHS. The elected officials are:

### FHS/AFS EXECUTIVE COMMITTEE 2005-2008

#### Chairperson

Prof. Takashi Aoki (Japan)

#### Vice-Chairperson

Prof. Chu-Fang Lo (Taiwan)

#### Secretary/Treasurer

Mr. Arun Padiyar (India/Indonesia)

#### Past Chairperson

Dr. Melba B. Reantaso (Philippines/US/Italy)

#### Members

Dr. Brian Jones (Australia)

Dr. Sharon McGladdery (Canada)

Dr. Flavio Corsin (Italy/Vietnam)

Dr. Mangalika Hettiarachchi (Sri Lanka)

Dr. Suppalak Puttinaowarat (Thailand)

Dr. Jimmy Turnbull (UK)

Dr. Dang Oanh (Vietnam)

#### FHS Electronic Newsletter Editorial Team

Dr. Melba B. Reantaso (Philippines/US/Italy)

Dr. Brian Jones (Australia)



#### VICE-CHAIRPERSON

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Since 1994, Grace's collaborative work with Prof. Guang-Hsiung Kou has focused on the study of white spot syndrome virus (WSSV), which is the causative agent of one of the world's most serious shrimp diseases. The scope of her research includes not only the virus itself, but extends to viral transmission and control. Under her guidance, her laboratory has developed WSSV screening technology and a PCR diagnostic kit that is now widely used by researchers as well as by the aquaculture industry. Grace has published the complete genome sequence for the WSSV Taiwan isolate, which is one of only three WSSV isolates whose full sequence is known. Grace chairs the ICTV Nimaviridae study group, and was formerly a member of the WSSV study group led by Dr. Just Vlak when it successfully proposed the erection of WSSV as the type species of a new genus (Whispovirus) and family (Nimaviridae). Grace continues to work on the molecular pathogenesis of WSSV and on host-virus interactions. She currently heads of two OIE reference laboratories in Asia. One is for white spot disease and the other is for spherical baculovirus (which is caused by MBV, or *Penaeus monodon*-type baculovirus).



#### CHAIRPERSON

Dr. Takashi Aoki (Japan)

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Aoki is Professor in Fish Genetics and Biochemistry, teaches graduate and undergraduate courses and directs a research program, dealing with fish and shellfish diseases and immunology. Aoki had published extensively on fish and shellfish diseases and immunology and on topics including cloning and characterization of fish and shellfish immune-related genes, characterization of virulence and drug resistance genes of fish pathogenic bacteria, studies and vaccines for aquaculture and molecular diagnostic technique. He was former President of the Japan Society of Fish Pathology and currently Vice-President of Japan Society of Fisheries Science.



#### SECRETARY/TREASURER

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Arun is an alumni of the College of Fisheries, Mangalore, India. After completion of Bachelors and Masters degree in Fisheries Science (1993-1999), he started his professional career as research assistant in the same college during 1999-2001 in a DFID, UK funded project on Epidemiology of White spot syndrome in black tiger shrimp in Kundapur, India. Then for 5 years he worked for NACA as research associate and Project Supervisor for its MPEDA-NACA technical assistance programme on shrimp disease and coastal management in India. During this time he worked as an extension worker to disseminate better management practices and the concept of aquaculture among the farmers for preventing and controlling diseases in nearly 1000 ha of small-scale shrimp farms in five states of India. Since August 2005, he is serving in Aceh, Indonesia for FAO as Aquaculture and Livelihood specialist to assist in rehabilitating the tsunami devastated aquaculture sub-sector. He is also an external Ph.D. candidate at Deakin University, Australia.



# Fish Health Section

## Asian Fisheries Society



**PAST CHAIRPERSON**  
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Melba was a civil servant for 20 years and retired as Senior Aquaculturist at the Fish Health Section of the Philippine Bureau of Fisheries and Aquatic Resources. Melba earned post-doctoral, PhD and MSc degrees at the Nippon Veterinary and Animal University (as Japanese Society for Promotion of Science – JSPS Post-Doctoral Fellow), the University of Tokyo (as Japanese Government - Monbusho scholar), both in Japan, De La Salle University (in the Philippines as an IDRC scholar), respectively; and Bachelor of Science degree in Zoology from the University of the Philippines at Los Banos (UPLB). Melba served as the Regional Aquatic Animal Health Specialist of the Network of Aquaculture Centres in Asia-Pacific (NACA) from 1999 to 2002. In September 2002, she relocated to the United States to take up a post as Aquatic Animal Research Pathologist at the Maryland Department of Natural Resources, Cooperative Oxford Laboratory based in Oxford, MD before joining the Food and Agriculture Organization of the United Nations (FAO) as Fishery Resources Officer (Aquaculture) in September 2004. A pioneering member of the FHS since 1989, Melba served as Secretary/Treasurer from 1999-2002, Chairperson from 2002-2005, Co-editor of DAA V and DAA VI. Her current work related to aquatic animal health includes general advice and technical assistance to FAO member countries with respect to developing programs on biosecurity and national strategies on aquatic animal health; capacity building on general aquatic animal health management, disease surveillance and risk analysis, normative work on developing guidelines and manuals on health management and aquatic animal health information system (FAO AAPQIS).



**EXECOM MEMBER (Australia)**  
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Brian's main research interests are diseases and parasites of fish, crustaceans and mollusks (particularly pearl oysters); taxonomy of parasitic Copepoda, and Import Risk Assessment methodology. Brian has authored or co-authored of over 100 scientific papers and technical reports and has broad international experience with both freshwater and marine fisheries and aquaculture, covering such diverse areas as aquaculture, pelagic fish stock assessment, satellite remote sensing and the environmental impacts of fishing. His primary interest has always been fish pathology.



**EXECOM MEMBER (Canada)**  
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Sharon is the national science advisor for aquatic animal health for Fisheries and Oceans Canada (DFO). She headed the Shellfish Health Laboratory in Moncton, New Brunswick, diagnostic services for live introductions and transfers, and designed training manuals and courses for local universities

and colleges. She moved to Ottawa in 2002 to assist with development of Canada's National Aquatic Animal Health Program (NAAHP). Sharon has been involved in a number of aquatic animal health projects in the Asia Pacific Region, including the FAO-NACA Asia Regional Program for the Responsible Movement of Live Aquatic Animals and early development of the Aquatic Animal Pathogen Quarantine Information System (AAPQIS) for Asia-Pacific. She is currently the Chief Scientific Advisor to Canada's veterinary authority (the Canadian Food Inspection Agency) for aquatic animal health issues related to international trade. This includes advice related to the activities and standards set by the World Organisation for Animal Health (OIE - Office International des Épizooties) for aquatic animals. In 2002, she was the scientific lead for Canada's response to the first detection of the OIE-listed oyster disease, MSX (caused by *Haplosporidium nelsoni*). Sharon is responsible for coordination of management of the salmon disease, Infectious Salmon Anaemia (ISA) between Canada and the USA, and is a member of the Canada-USA Technical Committee on national aquatic animal health program development.



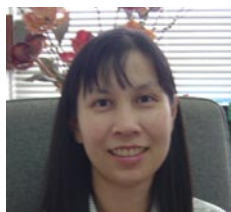
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Flavio is an aquatic animal health specialist who has been working on aquatic animal epidemiology for the past 8 years. About 2 years ago, he decided to join the Network of Aquaculture Centers in Asia Pacific (NACA) and moved from a research-oriented career to a more applied aquatic animal health management position. He now coordinates several activities aimed not only at improving aquatic animal health management, but also at developing, disseminating and implementing strategies for sustainable aquaculture development. The focus of many of these activities is Viet Nam, although he supports several initiatives in other NACA countries such as Iran, India and Indonesia.



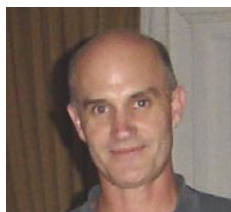
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Manga, a Senior Lecturer in the Department of Zoology, University of Kelaniya since 1991 also served as the Head/Department of Zoology from 1998 to 2001. Her Department started an M.Sc. Program in Aquaculture and Fisheries Management (first postgraduate program in aquaculture offered in Sri Lanka) in 1997 and she served as the First Coordinator. Currently, Manga represents the University of Kelaniya at the Aquatic Resource Committee of Science and Technical Personnel Development Project funded by Asian Development Bank, a project to control out-breaks of white spot disease in shrimp culture in Sri Lanka. Five M.Sc. students have completed their research projects (related to aquaculture and diseases in aquaculture) under her supervision, while 4 students are carrying out their research projects. One M. Phil student is writing his thesis after completing the research on white spot syndrome in *Penaeus monodon* cultured in Sri Lanka. Manga provides lectures for undergraduate and postgraduate students on general aquaculture and diseases and health management in aquaculture. In addition, she is also a Visiting Lecturer on the same topics for other institutions in Sri Lanka.



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Suppalak or Ying Lewis (née Puttinaowarat) has a PhD in Aquatic Pathobiology (Fish Immunology) from Stirling University in the UK. Since completing her PhD in 1999 she has worked at AAHRI. Currently, Suppalak is head of the immunology section and responsible for disease approval for both the export and import of aquatic animals. Suppalak also supervises MSc and PhD students in a number of different universities in Thailand. She is also involved in the training of overseas visitors in fish immunology through the establishment of workshops and short courses. Her main research interests are the development of rapid diagnostic methods to detect the cause of diseases in economically important fish species as well as vaccine development to fish diseases.



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Jimmy qualified as a veterinarian from the University of Edinburgh in 1980, spent 6 years in veterinary practice dealing with farm and pet animals before following his main interest by taking a MSc in Aquatic Veterinary Studies at the Institute of Aquaculture (IoA) Stirling. He then moved onto a part time PhD supervised by Randolph Richards studying a production disease problem in Atlantic salmon whilst working as a diagnostician and health consultant to a group of fish farms. In 1991 he was asked by Ron Roberts (director IoA) to undertake some work on shrimp diseases and attended the shrimp pathology course in Arizona. Around the same time he was fortunate to establish collaboration with Pornlerd Chanratchakool Supranee Chinabut and Kamonporn Tonguthai from AAHRI, Thailand. In 1996 he attended the master class in aquatic animal epidemiology arranged by Dick Callinan and organised and run by Chris Baldock. The next year he obtained DFID funding for an aquatic epidemiology project investigating WSD, in collaboration with Kenton Morgan (UK), NV Hao (Vietnam) and CV Mohan (India). Since the early 1990s, he has collaborated on aquatic animal health projects in Thailand, Indonesia, Vietnam, India, China, Mexico and others. He is currently a Senior Lecturer at IoA Stirling; he has several projects on aquatic animal population health and welfare, and is the director for the MSc courses in Aquatic Veterinary Studies and Aquatic Pathobiology.



**EXECOM MEMBER (Vietnam)**  
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Dang obtained a Bachelor degree on Aquaculture at Cantho University, Vietnam in 1991 and started her career as a national aquaculture assistant for the European Community International Programme for the Reintegration of Vietnamese Returnees (ECIP) from 1993-1994. Since then she has been working as a lecturer at the College of Aquaculture and Fisheries, Cantho University, Vietnam. In 1999, she obtained an MSc degree from the University of Aarhus in Denmark and continued working at the University

of Cantho. She teaches subjects on general microbiology and shrimp diseases for second year undergraduates on Aquaculture and on Environmental Sciences. Besides, she gives lectures on aquatic health management for Master course in aquaculture. Dang has been playing a key role in the establishment of advanced diagnostic capabilities for viral diseases of shrimp at the College and a collaborator on projects related to aquatic animal health with CSIRO, UNDP, FAO, JIRCAS and EU. I have been awarding a PhD Scholarship from the Government of Vietnam enrolled at the University of Queensland, Australia since 2003.

### DAA VI EDITORIAL TEAM

- Dr. Melba B. Reantaso (Philippines/US/Italy)  
 Dr. C.V. Mohan (India/Thailand)  
 Dr. Margaret Crumlish (UK)  
 Dr. Rohana Subasinghe (Sri Lanka/Italy)



Mohan is an Indian national and has been working as Associate Professor of Fish Pathology at the College of Fisheries, Mangalore since 1982. He obtained his PhD from the Institute of Aquaculture, University of Stirling, UK in 1990. Since March 2003, Mohan has been working at the Network of Aquaculture Centres in Asia-Pacific (NACA), based in Bangkok, Thailand as the Regional Aquatic Animal

Health Specialist, managing the regional aquatic animal health programme in 21 countries of the Asia-Pacific region. In his new responsibility in the intergovernmental NACA, he is working closely with member governments, FAO, OIE and other regional and international organizations to promote Better aquatic animal health management in the region. In addition to the routine activities under the regional health programme, he is coordinating 5 regional aquatic animal health projects, of which 2 are specifically focused on ASEAN countries. He has more than 20 years of teaching and research experience in aquatic animal health and has authored and coauthored over 50 papers in peer reviewed national and international journals. He is very closely associated with the FHS of the AFS and has served in the Executive committee for 2 terms.  
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Rohana is a Senior Fisheries Resources Officer (Aquaculture) at the Fisheries Department of FAO. He is specialized in aquaculture, disease control and health management (with particular reference to microbiology and immunology). Rohana has worked in all parts of the world, with most experience in Asia. Rohana was responsible for many projects on aquaculture and aquatic animal health at national, regional and international levels. A former teacher of the University of Colombo and the Universiti Putra Malaysia, Rohana earned his PhD from Stirling University. He was also a former Chairperson of the FHS/AFS (1996-1999) and is a co-editor of DAA I and II. E-mail: [Rohana.Subasinghe@fao.org](mailto:Rohana.Subasinghe@fao.org)



## DAA VI Impressions

When I first began writing to Melba shortly before the DAA VI, some of my humor (or at least what I thought was humor) was not received quite the way I had anticipated. A mutual friend of ours called me up one day and said “Gary, what did you say to Melba?” Apparently Melba called him to question who exactly I was to make the remarks that I did! You might also interpret this as “Is this guy an idiot?” Well that is how I felt Melba was thinking of me....and then I was off to Sri Lanka! What an excellent way to start my first DAA meeting, with two left feet and one of them in my mouth.

So off I went, passing through the rat maze they call Heathrow Airport, and into my first taste of Sri Lanka – flight attendants in saris on Sri Lankan Air. Beautiful, colorful, flowing dresses, although I, myself, might not look quite as attractive. After circumnavigating half the globe many rows behind first class, I arrived a day before most of the other participants. I wanted to make to most of my first, and possibly only, trip to Colombo. That also gave me some time to figure out how I was going to sweet talk Melba into believing that I was not so much an idiot, than just a joking fool.

The accommodations were, let’s say, acceptable. The air conditioned, ocean view from the 5-star Taj Samudra made the daily walk to the conference well worth the sweat. I spent that first day exploring the local sites and learning just how close tuk-tuk’s can come without actually touching. The answer is pretty darn close. Before the icebreaker I took a sneak peak at the conference room. Quite impressive it was! The high ceilings offered a feeling of grandeur and made the speakers presence at the podium pale in comparison to that of the audience. This contrast presented a nice yin-yang balance between some of those high-powered speakers and the rest of us common folk.

Then off to the ice breaker I went. The agenda said 19:00, so in typical American (U.S.) fashion I was there at 18:30.... by myself. A nice, well-dressed, Korean couple did show up shortly afterwards making the wait less lonely, although I did feel slightly underdressed. In my mind it was an icebreaker, you know...time to break the ice. Slowly but surely the masses arrived and I knew hardly anyone. Serendipitously, the co-author of my talk, Dr. Brian Jones, whom I had not yet actually met, was in front of me on the buffet line. Brian, a competent non-veterinarian fluent in aquatic animal medicine, met my co-worker, Dr. Peter Merrill, an equally competent and fluent veterinarian, and the two of them launched into an old debate related to my use of the word ‘equally’ I this sentence. I quickly scampered away to break the ice elsewhere. I met a nice contingency of people from Japan (I’ll reserve naming names to protect the innocent) and it was obvious that the senior professor was very well respected by his students. I am not in a position where I have students, but if I did I would want to be a professor

in Japan! Afterwards I continued to mingle, and maybe my search criteria for people to converse with was biased, but I found many young people from Thailand (again reserving names) to be very happy and playful. I think there is a visit to Bangkok in my future. Well, I was the first one to arrive and one of the last to leave – overall it was a good start.

The next morning we arrived to the conference, again early, and in the lobby I immediately recognized Melba from photos on the internet. Not those types of photos, silly (note my foolish ‘humor’). It was time to grovel. Actually it went quite smooth. Multiple ‘I’m sorry’s’ and all was forgiven. Actually, later in the meeting we were having lunch and she asked if I could give her some of my humor. I agreed if she would give me some of her hair. I’m still waiting... Well, the pressure was gone – time to enjoy the meeting.

When the opening ceremony began and the local traditional dancers entered, I remembered why it is so fun to visit other cultures. I’m not ready to walk on hot coals, but the excitement they brought to the room was a fun way to start the DAA VI. Talking about that acronym, I think I’ll make my plug for consideration of a symposium name change. Now I know change is hard, and at the same time there is much to be said for the precedence and history of ‘DAA’. Alas, the word ‘diseases’ has immediate negative connotations. If you look at the agenda of the meeting you read things like “Facing New Challenges”, “Biosecurity”, “Health Management”, “Tea and Coffee”, etc. All of these words and phrases tend to have a positive connotation. I’m not suggesting something drastic like Nations in Asia Caring for Aquaculture. Besides, who would want an acronym like that anyway? How about Developments in Asian Aquaculture? This embodies the idea of progress while maintaining the DAA memories. But this is just a thought and I regress from the purpose of my impressions... back to DAA VI.

If you missed the DAA VI, let me catch you up on the oral technical presentations. The only thing more popular than coming late to the 8:00 AM presentations were the number of talks on WSSV. Maybe the conference should have been called WSSVDAAVI (try to pronounce that). Talking about pronunciations, I would like to offer “congratulations” or, pagbati, danh tở, upacan selamat, ████████████████████, and Onya (that’s Australian for you blokes who don’t speak English down under) to all of the speakers. Personally, I might be able to limp through a presentation in Spanish, but considering that English was likely not the primary language for many of the presenters, I thought they did a fantastic job. There was this one guy from England, though, who gave one of the keynote presentations, who was difficult to understand. Also, Lincoln Tubbs deserves a special pat on the back. He was given the hardest slot of any conference... the dreaded last talk when much of the audience is blurry-eyed and on the verge of drooling. He



## Cocktails - Icebreaker





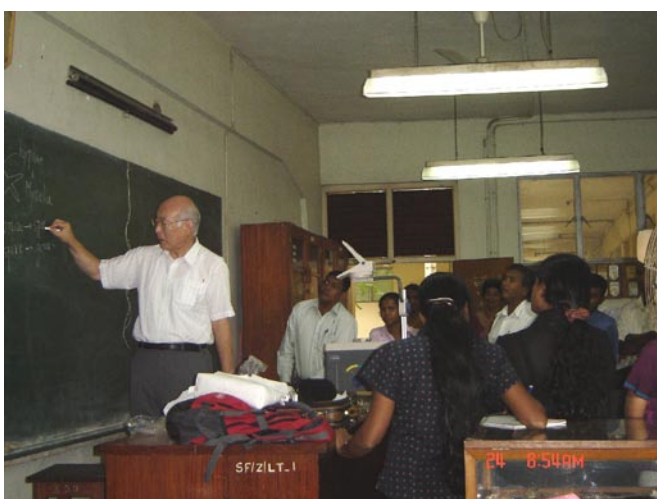
took on that role with pride (and in his flip-flops) and did not even mention WSSV.

Eventually the time came for poster viewing. Wow! Some impressive science, and admittedly I did not even understand a certain percentage of the posters. I will never admit, though, what percentage. Without a doubt, there are many highly intelligent students entering the ranks of aquatic animal professionals in Asia. It was definitely of the caliber one would expect to see at an international meeting. For those of you, who may not have received any particular or individual praises, hold your head high. You all did a fantastic job. Next time, subtly pass me \$20 and I'll see what I can do for you.



No meeting, like no good family reunion, is complete without a little drama. I was not a member of the AFS/FHS, so I did not intend to participate in the evening Triennial General Meeting, but I did sit in the back of the room to observe. I'm glad to see that my brother and I are not the only two who do not see eye to eye on certain issues. There were some quite lively discussions, and if your feathers got ruffled at the meeting remember...I am balding and you are probably not, so be happy!

My favorite memory of DAA IV was just after I asked people to stand and meet your neighbors. I walked over to Mohan (who by the way knew beforehand that I was going to single him out) and asked him if he met somebody new. With a big confident smile he said "YES!" OK, well, what is their name, I asked? Uhhmmm....he replied, and quickly turns around to read the person's name tag. Mohan – thanks for the laughs. Next time maybe I should write you a complete script.



Without exception, I found the local Sri Lankan support staff, both from the Hotel Colombo and the AFS, professional and friendly, and the DAA VI seemed to proceed flawlessly. Behind the scenes it could have been a total disaster for all I know, but from the perspective of the participants it was an undeniable success. When I spoke with Melba recently and she asked me to write my impressions of the DAA VI, I was much honored. Not only because of my fumbling start with her, but considering the many other deserving first time DAA participants who could have written this. I hope to see all of you again at the next WSSVDAA and I am happy for the new friends I made.

### **P. Gary Egrie, VMD**

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United States Department of Agriculture  
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## Opening





## DAA VI Report

DAA VI was officially opened by the Hon. Milroy Fernando, Sri Lanka's Minister of Fisheries and Aquatic Resources, with the lighting of candles, a number of speeches and welcome remarks and ending in a traditional Sri Lankan dance.

With the theme “Aquatic animal health – facing new challenges”, the Sixth Symposium on Diseases in Asian Aquaculture (DAA VI) was a blast with more than 160 delegates from 23 countries (Australia, Bangladesh, Brunei, Canada, China, Hungary, India, Indonesia, Iran, Israel, Italy, Japan, Korea RO, Malaysia, New Zealand, Philippines, Singapore, Sri Lanka, Taiwan, Thailand, U.K., USA and Vietnam) who all enjoyed the hospitality, food, culture and participated in the wide-ranging topics covered by DAA VI. Thailand topped the list with 31 delegates, followed by Japan and India, with 13 and 11 delegates, respectively. Twelve Keynote Presentations and more than 110 oral/poster

**Training Workshop on Fish Disease Diagnosis and Health Management.** Preceding DAA VI, the FHS organized a two-day Training Workshop on Fish Disease Diagnosis and Health Management in cooperation with the Aquatic Resources Development and Quality Improvement Project (ARDQIP) of Sri Lanka's Ministry of Fisheries and Aquatic Resource and the University of Kelaniya. Thirty nine local participants from the private sector (involved in ornamental fish culture and shrimp culture), research institutes and universities gained additional knowledge from FHS members F Berthe, K Ogawa, K Yuasa and K Hatai who, at very short notice, unselfishly shared their time and expertise to this endeavour. At every DAA the FHS attempts to continue this 6-year old tradition on **continuing professional education** for its members and partners. The tradition started with the FAO/NACA Molluscan Health Training Phase I workshop in 1999 during DAA IV in the Philippines and



presentations made DAA VI a big success. Six generous sponsors - *Major Sponsor* Farming IntelliGene Tech. Corp., *Sponsors* Intervet, Uni-President Enterprises Corp, and Schering-Plough Animal Health (Aquaculture), and *Supporters* Applied Biosystems and Third World Academy of Sciences - made it possible to sponsor 19 students and young scientists - from Australia, Bangladesh, India, Korea RO, Nepal, Philippines, Sri Lanka, Thailand, Vietnam, USA – **student support** is a long time tradition of the FHS. The local events organizer – Ace Travel and Conventions Ltd, the website developer AFFNO, the Local Organizing Committee, the International Scientific Programme Committee, the Sponsorship and Travel Awards Committee, and most especially all DAA VI participants who are members, friends, colleagues, supporters and partners of the FHS – should all be commended for a job well done.

Although DAA VI proper was held from 25-28 October, a number of pre- and post-DAA VI activities took place, i.e., 4th Meeting of NACA's Advisory Group on Aquatic Animal Health (23-24 October), a Training Workshop on Fish Disease Diagnosis and Health Management (23-24 October), and an FAO Expert Workshop on Development of CCRF Health Management Guidelines (1-4 November), which made the whole event run through almost three weeks of work and fun.

continued with, an Epidemiology Training Workshop and the Molluscan Health Training Phase II workshop during DAA V in Australia in 2002. .

**Seventh Triennial General Meeting (TGM-7) of the FHS.** On the evening of the 27<sup>th</sup> October, the Seventh Triennial General Meeting of the FHS/AFS was held. As normally done, FHS ExeCom 2002-2005 Secretary/Treasurer P Walker presented both the Secretary and Treasurer's Reports. With earnings from DAA V and DAA VI, the FHS finances are back on track. You may recall that we had some difficulty reconciling DAA IV finances; thus, we opted to close the DAA IV books through a settlement offer from our parent society, the AFS. The ExeCom also reported on the consolidation of the FHS finances to one US\$ account which is now held, thanks to an MOU with NACA, in Bangkok, Thailand. TGM-7 elected the new set of ExeCom (2005-2008). Outgoing Chairperson MB Reantaso and incoming Chairperson T Aoki gave thank you and welcoming speeches.

During “other business”, a member raised the issue concerning the future of the DAA publication. Members provided their opinion as to whether to retain the original publication format or take another publication route. After an intense and somewhat emotional debate, the decision (through a vote) of the TGM was to subject the issue to a referendum.



**OIE Special Session.** A special session was held on the evening of 26<sup>th</sup> October, chaired by the OIE Aquatic Animal Health Standards Commission Vice-President Barry Hill who presented on-going activities of the Commission and initiated a lively discussion on whether to include KHV in the OIE list of diseases.

**Diseases in Asian Aquaculture V.** The Proceedings of the Fifth Symposium on Diseases in Asian Aquaculture (DAA V, held in GoldCoast, Australia in November 2002), was launched. This fifth volume, edited by PJ Walker, RG Lester and MG Bondad-Reantaso, contains papers 53 original papers presented during DAA V and peer-reviewed by 71 aquatic animal health experts from around the globe. At that meeting 212 scientists from 32 countries participated.

**Farewell Dinner.** All the delegates and organizers celebrated the success of DAA VI with a sumptuous dinner and a live band. The new FHS ExeCom 2005-2008 was presented. T Flegel (Thailand/Canada) and K Hatai (Japan) received the FHS Award for 2005 - for their unselfish support to the society particularly their continuous participation in all DAAs together with many of their students. Dang Thi Lua (Vietnam/Japan), Bui Thi Minh Dieu (Vietnam/Belgium), and Lincoln Tubbs (New Zealand) bagged the top three Oral Presentation Awards; while Wang Jing Liu (Taiwan), Sudkhate Molthathon (Thailand) and KJ Palaksha (India/Korea RO) won the top Poster Presentation Awards. The winners were carefully judged by T Flegel, CF Lo, I Karunasagar, M Shariff and B Hill. Each winner was presented with a Certificate and Book gifts. Tokens of appreciation to representatives of DAA VI sponsors and certificates of attendance to participants were also distributed. Many delegates had to catch their flights after dinner, while all who were left, happily danced the rest of the evening until it was time to say the last good-byes.

**FAO Expert Workshop on Development of Technical Guidelines for the Responsible Movement of Live Aquatic Animals, 1-4 November 2005, Dambulla, Sri Lanka** More than 20 DAA delegates continued touring parts of Sri Lanka on the way to Dambulla, to participate in this FAO Workshop convened to prepare Technical Guidelines on "Health Management for Responsible Movement of Live Aquatic Organisms" as part of FAO's Code of Conduct for



Responsible Fisheries Technical Guidelines Series. The 26 experts participating in this Workshop tackled 4 Working Group themes: (a) Guiding Principles and Regional and International Cooperation; (b) Risk Assessment and the Precautionary Principle for Pathogens of Concern at the National, Local Authority and Farm/Fishery Level; (c) Infrastructure for Disease Diagnosis, Surveillance and Zonation, Reporting and Emergency Response; and (d) Integration of National Authority, Local Authority and Farm Management Programs.

**W**e have achieved all these back to back events, it was exhausting but truly enjoyable mainly because of the good company of friends and peers whom we have worked with for close to 20 years and new colleagues who have become friends before the end of the events.

I am particularly pleased to see familiar faces from DAA I (Bali, Indonesia in 1990), who, after 15 years, are still strongly supporting DAA – to mention some – D Callinan of Australia; JR Arthur of Canada; CV Mohan of India; D Dana of Indonesia; the Japanese team of T Aoki, I Hirono, T Itami & T Miyazaki; M Shariff & S Abdullah of Malaysia; R Subasinghe of Sri Lanka; C. Pitogo & G Lio-Po from the Philippines; and T Flegel, P Chanratchakool, T Somsiri & S Chinabut from Thailand. At the same time, it is also very refreshing to see new faces, new colleagues who will hopefully carry the FHS torch and its traditions through to the next DAA. To the new members, a warm welcome and we hope that you will find your membership to the society mutually beneficial.

We have seen and felt all the good memories of Sri Lanka - the people, their hospitality, the food, nature, Ceylon tea, Sigiriya, the scenery, jewels, fortress, and all the wonders of a true paradise we call Sri Lanka - the Isle of Serendipity.

Before writing this report, I spent some time looking at the photos taken from my camera and I can't help feel nostalgic. Every DAA seems to be a much awaited chapter in the history of the FHS, since this is the main occasion where we, once again, meet with colleagues whom we have not seen for many years, at least three years for some, maybe more for others. There is no substitute to a face-to-face meeting.

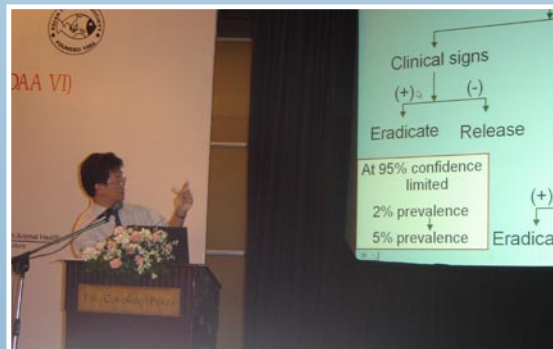
I am happy to close yet another chapter in the history of FHS knowing that we have achieved some milestones and accomplished our remit; we continued the tradition of the society with some new targets ahead of us; and with renewed confidence that the current ExeCom will carry on the work of our society.

Reported by MB Reantaso



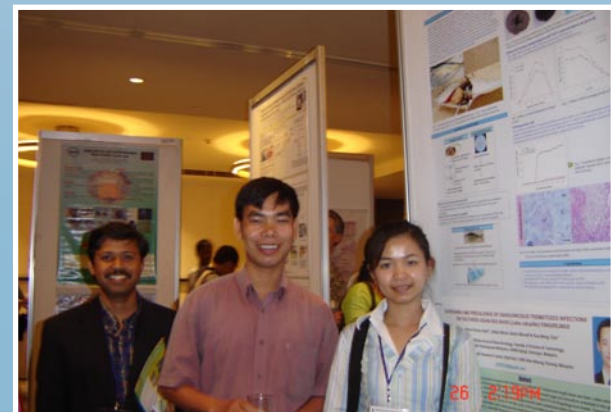
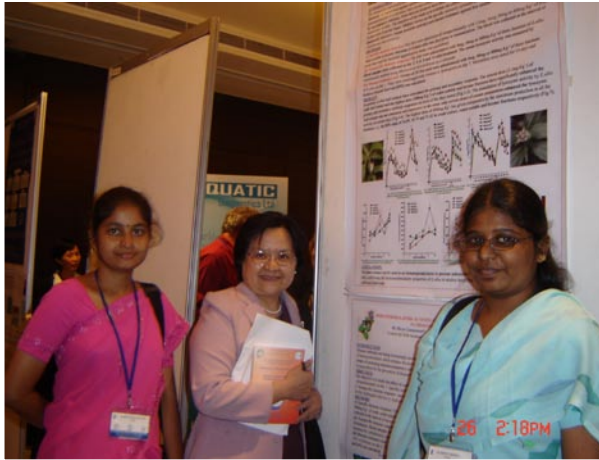


Oral presentations



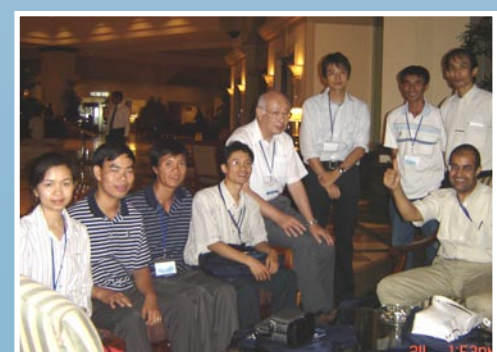


Poster presentations



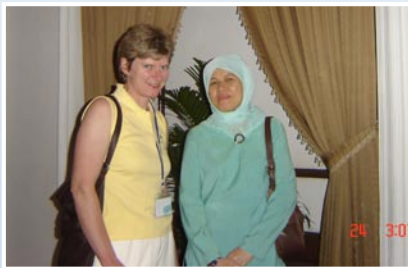


## DAA VI Sidelights





## DAA VI Sidelights





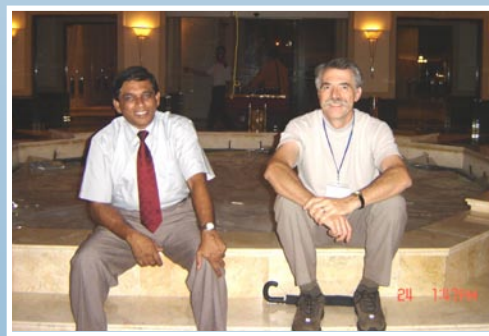
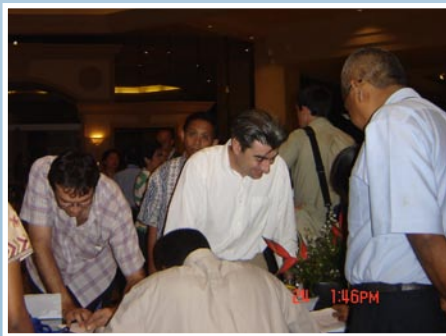
### ACE Travels/Events Organizers



### FHS Awardees



### Registration



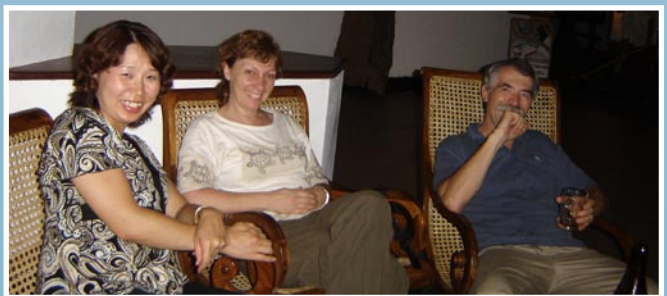
### Student Awardees







### Dambulla Workshop





## Seventh Symposium on Diseases in Asian Aquaculture (DAA VII)

FHS ExeCom (2005-2008) Chairperson Prof. T. Aoki has invited the **National Taiwan University**, located at the cosmopolitan GongGuan district of Taipei, as the host of the the **Seventh Symposium on Diseases in Asian Aquaculture (DAA VII)** which will be held in 2008. More details will be provided by the head of DAA VII Local Organizing Committee, Prof. Chu-Fang Lo.



## FHS Member Updates

Let us **WELCOME** the new members who enlisted prior to and during **DAA VI** in Colombo

Bangladesh: Ali Faruk  
Canada: Franck Berthe  
China: Jie Huang, Hong Liu, Li Anxing  
India: KV Rajendran  
Indonesia: Arief Taslihan  
Iran: Sareh Tavakol, Rahim Peyghan  
Japan: Teruo Miyazaki  
Malaysia: Azila Abdullah  
Nepal: Shankar Prasad Dahal  
Sri Lanka: Sepalika Jayamanne  
Thailand: Praparsiri Barnette, Suda Tandavanit, Worawit Maneepitaksanti, Wannalai Pooyam, Natthawadi Pradischai  
Vietnam: Dang Oanh, Bui Thanh Ngoc, Pham Khang Van, Nguyen Khue Viet, Le Van Khoa, Nguyen Nhu Tiep, Nguyen Thi Tuong Vi, Tu Thanh Dung  
USA: Rangunath Shivappa

And many thanks to all those who renewed their membership annual dues.

**Congratulations and very best wishes to:**

FHS Chairperson Takashi Aoki for his new post as Vice President of the Japan Society of Fisheries Science.

FHS Vice-Chairperson Grace Lo for her new appointment as Dean of the College of Life Science, National Taiwan University.

Luc Grisez has moved from Intervet Norbio Singapore to Intervet International The Netherlands, since April 2006.

Erlinda Lacierda has take up a post as Associate Professor at the Faculty of Fisheries, Kagoshima University for 5

years since April 2006 under the Kagoshima University Faculty of Fisheries and the UP in the Visayas project on fish disease and environmental pollution. E-mail: [erlinda@fish.kagoshima-u.ac.jp](mailto:erlinda@fish.kagoshima-u.ac.jp)

Agus Sunarto is now a full time PhD student at the University of Queensland since June 2006 and based at the Australian Animal Health Laboratory (AAHL) in Geelong, Australia under the supervision of Prof. Peter Walker. E-mail: [agus.sunarto@gmail.com](mailto:agus.sunarto@gmail.com)

## Recently Held and Upcoming Events

**Joint FAO/WHO/OIE Expert Consultation on Antimicrobial Use in Aquaculture and Antimicrobial Resistance**, 13-16 June, Seoul, Korea RO

**47<sup>th</sup> Fish Disease Workshop**, Victoria, British Columbia, Canada, 26-28 June 2006, [http://www.fisheries.org/fhs/wfdw\\_2006.htm](http://www.fisheries.org/fhs/wfdw_2006.htm); [traxlerG@pac.dfo-mpo.gc.ca](mailto:traxlerG@pac.dfo-mpo.gc.ca)

**2<sup>nd</sup> International Symposium on Cage Aquaculture in Asia (CAA2)**, Hangzhou, China, 3-8 July 2006. [www.caa2.org](http://www.caa2.org)

**143<sup>rd</sup> AVMA Annual Convention**, 15-19 July 2006, Honolulu, Hawaii <http://avma.omnibooksonline.com/2006/>

**ISVEE XI International Symposium on Veterinary Epidemiology and Economics**, 6-11 August 2006, Cairns, Queensland, Australia, <http://www.isveexi.org/>

**11th International Congress of Parasitology**, Glasgow, Scotland, 6-11 August 2006, [www.icopa-xi.org](http://www.icopa-xi.org)

**Australasian Aquaculture 2006**, 27 - 30 August 2006, Adelaide Convention Centre, South Australia, <http://www.australian-aquacultureportal.com>

**ISA AH 2006 International Symposium on Aquatic Animal Health**, 2-6 September 2006, San Francisco, California, USA, [http://www.fisheries.org/fhs/isaah\\_2006.htm](http://www.fisheries.org/fhs/isaah_2006.htm)

**Third Session of the FAO Committee on Fisheries Sub-Committee on Aquaculture**, 4-8 September 2006, New Delhi, India [ftp://ftp.fao.org/FI/DOCUMENT/COFI/Cofi\\_aq/2006/default.htm](ftp://ftp.fao.org/FI/DOCUMENT/COFI/Cofi_aq/2006/default.htm)

**ICES 2006 Annual Science Conference**, Maastricht Exhibition and Congress Centre Netherlands, 19-23 September 2006, [www.ices.dk/iceswork/asc/2006/index.asp](http://www.ices.dk/iceswork/asc/2006/index.asp)

**OIE Global Conference on Aquatic Animal Health**, 9-12 October 2006, Bergen, Norway, <http://www.oie.int/eng/Norway2/programme.htm>

**Third International Congress on Aquaculture**, Fisheries Technology and Environmental Management, Athens, Greece, 3-4 November 2006, <http://connect.to/pasti>



## Aquatic Animal Health Regional and Global Developments

**ACIAR-NACA White Spot Syndrome Virus (WSSV) PCR Intercalibration Exercise** under the under the ACIAR/CIBA/MPEDA/CSIRO/NACA regional shrimp health project was successfully completed in June 2006 in India with the participation of 49 PCR service laboratories in India. This was a follow-up of the first PCR training workshop held in October 2005 in CIBA Chennai. A second PCR training workshop is scheduled in October 2006 in Chennai. Contact: [mohan@enaca.org](mailto:mohan@enaca.org)

**AADCP-RPS Projects:** NACA and the Australian implementing partner, AusVet Animal Health Services have been coordinating the implementation of two AADCP-RPS projects (370-021 and 370-018, see below) since January 2006. Other partners for the projects include the ASEAN Secretariat, ASEAN governments, National Coordinators, Aquatic Animal Health Research Institute (AAHRI), Thailand and Department of Agriculture, Fisheries and Forestry (DAFF), Australia The project is managed by Cardno Acil Pty Ltd. Contact [mohan@enaca.org](mailto:mohan@enaca.org)

**Strengthening Aquatic Animal Health Capacity and Biosecurity in ASEAN (AADCP-RPS 370-021).** The NACA and AusVet Animal Health Services held the first policy review and development workshop under this project in Bangkok in Thailand on 3-6 April, 2006. Eighteen delegates from all ten ASEAN countries participated enthusiastically in the workshop. The workshop was supported by six resource people and facilitators from NACA, AAHRI, SEAFDEC and AusVet. The project goal is to enhance the capability of ASEAN member countries to implement ASEAN harmonized national aquatic animal health strategies to manage risks to the biosecurity of fisheries industries particularly those related to trade and impacting on the poor. Contact [mohan@enaca.org](mailto:mohan@enaca.org)

**Operational Guidelines on Responsible Movement of Live Food Finfish in ASEAN (AADCP-RPS 370-018).** The first Policy workshop and AAPQIS training was held on 10-12 April 2006 in Bangkok, Thailand. The project goal is to develop harmonized standard operating procedures for health certification and quarantine measures for transboundary movement of live food finfish. Nineteen representatives from all 10 ASEAN countries participated in the first policy workshop. The same set of ASEAN delegates will come together in February 2007 to adopt the Standard Operating Procedures for responsible movement of live food finfish. Contact [mohan@enaca.org](mailto:mohan@enaca.org)

**Certification of Fish Health Professionals in Asia.** A concept paper on Certification of aquatic animal health providers in Asia was presented to the 17th NACA Governing Council meeting held recently in Tehran, Iran from 25-28 Feb 2006. The Council endorsed the concept of developing a Professional Standards Mechanism in order to certify aquatic animal health providers in the region. The Council suggested that the specifics of such a program,

when developed should be presented to the GC for final approval". Contact [mohan@enaca.org](mailto:mohan@enaca.org)

**FAO currently supports 5 Technical Cooperation Projects (TCPs)** in Eastern Europe (Latvia, Bosnia & Herzegovina), Latin America (Mexico and Belize) and Pacific Micronesia (Palau, Federated States of Micronesia, Marshall Islands, Nauru and Kiribati) with subjects ranging from strengthening biosecurity framework, aquaculture health management and sustainable aquaculture development – all with strong components on aquatic animal health. Contact: [Melba.Reantaso@fao.org](mailto:Melba.Reantaso@fao.org) or [Rohana.Subasinghe@fao.org](mailto:Rohana.Subasinghe@fao.org)

FAO is completing the **FAO Technical Guidelines for Responsible Fisheries: Health Management for the Responsible Movement of Live Aquatic Animals** developed to support sections of the FAO Code of Conduct for Responsible Fisheries (CCRF) addressing responsible fisheries management (Article 7), aquaculture development (Article 9), international trade (Article 11) and fisheries research (Article 12), with inputs from the recently concluded FAO Expert Workshop on Health Management held in Dambulla, Sri Lanka from 1-4 November 2005. The Technical Guidelines has a companion document, *Compliance to FAO Technical Guidelines for Responsible Fisheries: Health Management for Responsible Movement of Live Aquatic Animals*, which will provide more detailed documentation to assist countries and individuals in promoting health management for the safe movement of live aquatic animals. Contact: [Rohana.Subasinghe@fao.org](mailto:Rohana.Subasinghe@fao.org)

## Aquatic Animal Health Opportunities (Recently held meetings/conferences upcoming courses, jobs)

**Mollusc Health and Disease Management**, 5-8 June 2006, Prince Edward Island, Canada, <http://www.upei.ca/cai>

**Diseases of Warmwater Fish Specialized Training for the Aquatic Health Practitioner**, June 5-16, 2006, Ruskin and St. Augustine, FL, USA <http://conference.ifas.ufl.edu/ame/wwf/>

**Shrimp Pathology Short Course**, 12-23 June Tucson, Arizona, USA, [http://microvet.arizona.edu/research/aquapath/2006\\_UofA\\_Short\\_Course\\_Brochure.pdf](http://microvet.arizona.edu/research/aquapath/2006_UofA_Short_Course_Brochure.pdf)

**Care, handling and use of aquatic animals**, 21-25 August 2006, Prince Edward Island, Canada <http://www.upei.ca/cai>

**OIE/SEAFDEC Hands-on Training Workshop on Aquatic Animal Disease Diagnosis** November 2006, Iloilo, Philippines, Inquiry [oietokyo@tky.3web.ne.jp](mailto:oietokyo@tky.3web.ne.jp)

**5<sup>th</sup> Session of AquaHealth Online (AHOL), an internet-based training on Principles of Health Management in Aquaculture.** Starting on 4 September 2006 for 20 weeks, with 12 modules. <http://lms.seafdec.org.ph/html/index.html> Email: [kgcorre@aqd.seafdec.org.ph](mailto:kgcorre@aqd.seafdec.org.ph); [training@aqd.seafdec.org.ph](mailto:training@aqd.seafdec.org.ph)



**9 PhD positions available in the RESCOPAR program.**

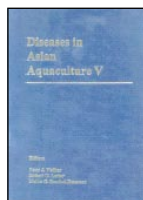
Rebuilding resilience of coastal populations and aquatic resources (RESCOPAR), is a program recently funded by Wageningen University through the Interdisciplinary Research and Education Fund (INREF). RESCOPAR focuses on understanding the ecological, social and political dynamics underlying processes of change and possible threats to the resilience of mangrove forested coastal ecosystems. This is to be achieved through a number of research projects including investigating the factors affecting disease incidence in shrimp culture in mangrove ecosystems. The program focuses its activities in Viet Nam and Indonesia. Starting early 2007 research activities will be carried out by 9 sandwich PhD students and a range of MSc students. The 9 PhD positions have now been advertised. Further details can be found at: <http://www.afs.wur.nl/UK/Research/RESCOPAR/PhD+positions/>

**Aquatic Animal Histopathology Resource.** The Australian National Aquatic Animal Health Technical Working Group coordinates distribution of a “slide of the quarter” training and reference histology slide to selected laboratories in Australia. The aim is to build up a reference collection of common aquatic animal pathogens. Each slide features an aquatic animal disease. High quality images, case notes and descriptions are available from these slides (currently 5 slides) and are posted with full public access on the Department of Fisheries website at <http://www.fish.wa.gov.au/docs/pub/FHSlideofQuarter/index.php?0408>

**Publications**

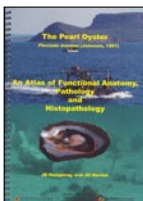
**Diseases in Asian Aquaculture V. 2005.**

Walker, P.J., R.G. Lester and M.G. Bondad-Reantaso (editors). Proceedings of the 5th Symposium on Diseases in Asian Aquaculture. Fish Health Section, Asian Fisheries Society, Manila. 635 pp. Contact: [suppalak68@yahoo.com](mailto:suppalak68@yahoo.com); [suppalap@fisheries.go.th](mailto:suppalap@fisheries.go.th)



**Fish diseases and disorders, Vol. 1, (2nd ed.): Protozoan and metazoan infections.** 2006. P.T.K. Woo (ed). CABI Publishing (UK). 800 p. For orders: [orders@cabi.org](mailto:orders@cabi.org)

**The Pearl Oyster *Pinctada maxima* (Jameson, 1901): An Atlas of Functional Anatomy, Pathology and Histopathology** by J Humphrey and J Norton. 2005. Northern Territory Department of Primary Industry, Fisheries and Mines, Queensland Department of Primary Industries and Fisheries and Fisheries Research and Development Corporation.



**OIE Aquatic Animal Health Code, 9th Edition.** 2006 (expected in August 2006)

**OIE Manual of Diagnostic Tests for Aquatic Animals, 5th Edition, 2006** (expected in September 2006) [http://www.oie.int/eng/publicat/en\\_aqua.htm](http://www.oie.int/eng/publicat/en_aqua.htm)

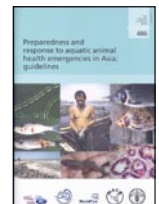
**Systemic Pathology of Fish: A Text and Atlas of Normal Tissues in Teleosts and their Responses in Disease** edited by Hugh W. Ferguson BVM&S, PhD, DipACVP, MRCVS, FRCPath. (Professor and Chair of Diagnostic Pathology and Microbiology, Institute of Aquaculture, University of Stirling, Scotland). For website and ordering information, plus a look at some sample pages: [www.scotianpress.com](http://www.scotianpress.com)

**Aquaculture Biosecurity: Prevention, Control and Eradication of Aquatic Animal Disease.** 2006. A. David Scarfe, Cheng-Sheng Lee and Patricia O’Bryen (editors). Blackwell Publishing. 182 pp.



**Regional Workshop on Preparedness and Response to Aquatic Animal Health Emergencies in Asia,** Jakarta, Indonesia, 21-23 September 2004. Subasinghe, R.P. and JR Arthur (editors). FAO Fisheries Proceedings No. 4, Rome, FAO. 2005. 178p.

**Preparedness and response to aquatic animal health emergencies in Asia: guidelines.** Arthur, J.R., Baldock, F.C., Subasinghe, R.P., & McGladdery, S.E. (editors). 2005. FAO Fisheries Technical Paper. No. 486. Rome, FAO. 2005. 40p.



**Responsible use of antibiotics in aquaculture.** Hernandez Serrano, P. 2005. FAO Fisheries Technical Paper. No. 469. Rome, FAO. 2005. 97p.



**Pathogen and ecological risk analysis for the introduction of blue shrimp, *Litopenaeus stylirostris*, from Brunei Darussalam to Fiji.** Bondad-Reantaso, M.G., Lovell, E.R., Arthur, J.R., Hurwood, D. & Mather, P.B. 2005. Secretariat of the Pacific Community, New Caledonia. 80 pp.

[http://www.spc.org.nc/aquaculture/site/publications/documents/Stylirostris\\_BruneiFiji.pdf](http://www.spc.org.nc/aquaculture/site/publications/documents/Stylirostris_BruneiFiji.pdf)



**Pathogen and ecological risk analysis for the introduction of giant river prawn, *Macrobrachium rosenbergii* from Fiji to the Cooks Islands.** Arthur, J.R., Hurwood, D., Lovell, E.R., Bondad-Reantaso, M.G., & Mather, P.B. 2005. Secretariat of the Pacific Community, New Caledonia.



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