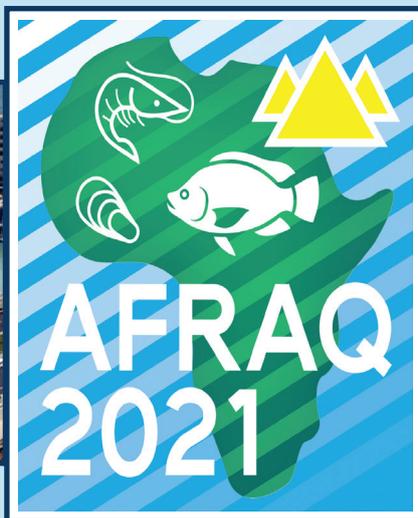


NEW DATES



# Sustainable Aquaculture – Feeding Africa

## AQUACULTURE AFRICA 2021

Alexandria Egypt • March 25 - 28, 2022



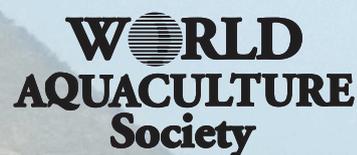
### The 1st Annual International Conference & Exposition of the African Chapter of the World Aquaculture Society (AFRAQ2021)

Egypt is the biggest aquaculture producer in the continent. Both local and international aquaculture delegates will converge for the event at the beautiful City of Alexandria, the Pride of the Mediterranean Sea.



Chapter Founding Gold Sponsor  
and  
AFRAQ 2020 Gold Sponsor

Hosted by



Conference Sponsor  
Egyptian Aquaculture Society (EgAS)

Silver Sponsor



WAS Premier Sponsors





## Conference Venue

The venue will be the famous Bibliotheca Alexandrina, one of the most fascinating touristic and cultural attractions in the world. The conference offers a great opportunity for aquaculture researchers, practitioners, decision makers and other stake holders to meet, network and discuss all aspects of aquaculture in Africa. Exhibitors from all over the globe are expected to exhibit their products in the amazing exhibition Center. Visits to the most famous touristic attractions in Egypt will be arranged. Special excursionary visits will also be arranged to nearby fish farms, fish feed mills and local research facilities. Be sure to schedule time for this unique scientific, business and social event.

## AFRAQ2021 Programme Themes

AFRAQ2021 technical program will aim to cover developmental issues including latest research on aquaculture in Africa. The thematic plenary and technical parallel sessions will comprise submitted oral and poster presentations. AFRAQ2021 will feature an international trade exhibition, industry forums, student sessions and activities, satellite workshops (and training sessions) and various meetings/forums on aquaculture development in Egypt and Africa. The theme for this inaugural event will be "Sustainable Aquaculture - Feeding Africa".

**Sample topics will include: (This is an initial theme list, subject to change)**

- Feed, Nutrition & Physiology
- Genetics & Reproduction
- Aquatic Animal Health
- Biotechnology, Nanotechnology in Aquaculture
- Environmental Management
- Sustainability , Livelihood & Nutritional Security
- Processing and Value Addition
- Food Quality & Safety
- Economics, Marketing, Trade & Policy
- Human Resource Development
- Food Quality & Safety
- Aquaculture Investment issues
- Human Resource Development
- Aquaculture Engineering
- Freshwater Aquaculture
- Brackishwater Aquaculture
- Mariculture
- Ornamental Fish Culture
- Innovative Systems and Practices
- Seed production

**Special sessions relevant to aquaculture development in Africa include:**

- Egyptian Aquaculture Session (English and Arabic)
- Near East and North Africa Grey Mullet Aquaculture and Stock Enhancement Session (English).
- FAO-Egypt Aquaculture Biosecurity Session (English)
- Industry Session – (English and Arabic)

More sessions will be announced in due course.

**Details regarding online submissions of abstracts (including full guidelines for abstract preparation and an abstract sample will be available soon on:**

**[www.was.org](http://www.was.org)**

# CALL FOR PAPERS – SUBMIT YOUR PAPERS NOW!

## DEADLINE: February 28, 2022

AFRAQ2021 encourages the submission of high quality oral and poster presentations. We strongly encourage authors to consider poster presentations because poster sessions will be an integral part of the program. Papers submitted for "oral presentation only" may not be accepted as oral presentations due to the limited number of available time slots. English encouraged, but 2 official languages (English or French) accepted. Power Point Presentation – Slides - same as above – English strongly encouraged. Oral Presentation: any of the 2 official languages. At the conference, the abstracts may be presented in English or French. Title the same language as presentation.

Each oral presenter shall be entitled to no more than 20 minutes comprised of 15 minutes for a presentation, plus 5 minutes for questions. Authors of studies involving proprietary products or formulations should present this information in workshops or the trade show. Oral presentations can only use Power Point. Overhead projectors, slides and video players will not be available or allowed

All presenters are required to pay their own registration, accommodation and travel expenses. AFRAQ2021 cannot subsidize registration fees, travel or hotel costs

### INSTRUCTIONS FOR PREPARATION OF ABSTRACTS

Extended Abstract Format – Please refer to the sample.

1. **TITLE OF PAPER :** The paper title is printed in CAPITAL LETTERS, with the exception of scientific names which should be Upper/lower case and italicized. Scientific names should not be preceded or followed by commas or parentheses or other markings.
2. **AUTHOR(S) :** The first name should be the presenting author. Use \*after the presenting author. Type in upper/lower case.
3. **ADDRESS AND EMAIL :** Type only the presenting author's institution, address and email. Type in upper/lower case.
4. **MAXIMUM LENGTH :** One Page
5. **PAGE SIZE :** Standard 210mm x 297mm A4 paper (portrait)
6. **MARGINS :** 1-inch margin throughout(left/right/top/bottom)
7. **SPACING :** Single spaced
8. **PARAGRAPHS :** Paragraphs should be separated by a blank line and should not be indented.
9. **FONTS :** Character fonts should be 12 point type.
10. **FIGURES & TABLES :** Figures and tables are highly recommended. They should be reduced to the appropriate size for a one page abstract and should be clearly readable at the reduced size in black print only. The reduced figures and tables should be included in the abstract in camera-ready form.
11. **MEASUREMENTS :** Use metric units of measurement. When needed, English equivalents may be given in parentheses.

1 inch margin

**EVALUATION OF JUVENILE AUSTRALIAN RED CLAW CRAYFISH (*Decapoda quadricarinata*) FED PRACTICAL DIETS WITH AND WITHOUT SUPPLEMENTAL LECITHIN AND/OR CHOLESTEROL**

Laura A. Marzini<sup>1</sup>, Kenneth R. Thompson, Tracy Christian, Carl D. Webster, Lukasz Manowicz, and David B. Rouse

<sup>1</sup>Agriculture Research Center, Kentucky State University, Frankfort, KY 40601, lmarzini@ksu.edu

Red claw crayfish (*Decapoda quadricarinata*) are one of more than a hundred aquatic freshwater crayfish. However, because of its rapid growth rate, ease of spawning, wide temperature tolerance, and lack of a larval stage, red claw may be the best candidate for aquaculture in the United States. Red claw are only being investigated as an aquaculture species in the very early stages of their nutritional requirements and practical diet formulations. No many species require lecithin and cholesterol to be added to their diet, these two nutrients are important for growth and cholesterol are very expensive. Since diet costs can be as much as 70% of the total cost of an aquaculture enterprise, it is imperative that the least expensive diet be formulated. The present study was conducted to determine if cholesterol and lecithin needs to be added to a practical diet for red claw crayfish.

An 8-week feeding trial was conducted in a recirculating system with seven 200-liter juvenile red claw crayfish (0.2 g) fed each of four practical diets within fibreglass tanks, each presenting a different water line. Water was recirculated through a series of mechanical filters. Water temperature was maintained at 27 °C and lighting was provided on a 12-hour light/dark cycle. Ammonia, nitrite, and nitrate were tested daily, alkalinity checked weekly, and water changed three times per week. The growth performance of juvenile red claw when fed four practical diets with or without cholesterol and lecithin. Other practical diets included menhaden fish meal, soybean meal, shrimp meal, wheat flour, vitamin and mineral mix, pellet binder, cod liver oil, and corn oil (Table 1).

After 8 weeks, red claw crayfish fed a practical diet without cholesterol (Diet 1) had significantly ( $P < 0.05$ ) lower final weight, percentage weight gain, and specific growth rate (SGR) compared to crayfish fed all other diets (Table 2). These results indicate that a practical diet containing 2% cod liver oil and 1% corn oil and having no lecithin appears to be sufficient and that lecithin may not be necessary for juvenile red claw diets.

	Diet			
	1	2	3	4
Menhaden Fish Meal	25.0	25.0	22.0	20.0
Soybean Meal	33.0	35.0	35.0	44.5
Lecithin 0.5	0.0	0.5	0.0	0.0
Cholesterol	1.0	1.0	0.0	0.0
Other	38.5	29.0	39.5	30.5

	Diet			
	1	2	3	4
Final weight (g)	0.97 <sup>a</sup>	0.90 <sup>a</sup>	3.60 <sup>b</sup>	3.13 <sup>b</sup>
Weight gain (%)	334 <sup>a</sup>	287 <sup>a</sup>	1173 <sup>b</sup>	1044 <sup>b</sup>
SGR (day <sup>-1</sup> )	2.76 <sup>a</sup>	2.65 <sup>a</sup>	4.60 <sup>b</sup>	4.14 <sup>b</sup>
Survival (%)	76.0	64.0	56.0	80.0

1 inch margin  
8.5 inches wide

### PLEASE SUBMIT YOUR ABSTRACT ONLINE

Submit abstracts via the internet at the meeting website : [www.was.org](http://www.was.org) Follow the complete instructions on the online submission.

If you are unable to submit your abstract online, contact the Conference Manager for alternative methods at : [worldaqua@was.org](mailto:worldaqua@was.org) or Fax: +1-760-751-5003



# AFRAQ2021

## March 25 - 28, 2022

Register online at: [www.was.org](http://www.was.org)

Return address for international payments in USD:  
 Conference Manager  
 P.O. Box 2302  
 Valley Center, CA 92082 USA  
 Tel: +1 760 751 5005  
 Fax: +1 760 751 5003  
 Email: [worldaqua@was.org](mailto:worldaqua@was.org)

**Online registration is preferred at [www.was.org](http://www.was.org) OR fax or mail both sides with payment. Use one form per person.**

PLEASE PRINT CLEARLY OR TYPE ALL REQUESTED INFORMATION		
<b>BADGE INFORMATION:</b> (As you want your name badge to read - No titles, please)		
First Name _____	SURNAME (FAMILY NAME) _____	
Company or Institution _____ (Limited to 40 Letters & Spaces)		
City _____	State/Prov _____	Country _____

**MAILING INFORMATION:** Email \_\_\_\_\_  
 (please include email address)

Postal Address \_\_\_\_\_

City \_\_\_\_\_ State / Prov \_\_\_\_\_ Postal Code \_\_\_\_\_ Country \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_ Title: (circle one) Dr. Mr. Ms. Mrs.  
 (Include country and city code) (Include country and city code)

**REGISTRATION FEES:** In order to receive the discount rates as listed below, this form and payment must be received by the date listed. See brochure for what is included in registration fees.

TYPE OF REGISTRATION	Register by Feb. 28, 2022	Register after Feb. 28, 2022	
<b>RULL CONFERENCE &amp; TRADE SHOW</b> <small>In order to receive the Pre-Registration discount rate, this form and payment must be received by the date above</small>			* To qualify for Member Rate you <u>must</u> complete the Association Memberships section on the reverse side.  ● ● ● ● ● ● ● ●  Trade Show is <u>included</u> in the Full Conference Registration Rate.  <b>TOTAL REGISTRATION FEE</b>  US\$ _____
<b>AFRICAN NATIONALS</b>			
MEMBER RATE*	<input type="checkbox"/> US\$ 325	<input type="checkbox"/> US\$ 490	
STUDENT MEMBER RATE*	<input type="checkbox"/> US\$ 165	<input type="checkbox"/> US\$ 195	
Non-Member Rate	<input type="checkbox"/> US\$ 425	<input type="checkbox"/> US\$ 590	
Student Non-Member Rate	<input type="checkbox"/> US\$ 215	<input type="checkbox"/> US\$ 255	
<small>You can join WAS on the reverse side and use</small>			
<b>NON-AFRICAN NATIONALS</b>			
MEMBER RATE*	<input type="checkbox"/> US\$ 395	<input type="checkbox"/> US\$ 490	
STUDENT MEMBER RATE*	<input type="checkbox"/> US\$ 165	<input type="checkbox"/> US\$ 195	
Non-Member Rate	<input type="checkbox"/> US\$ 495	<input type="checkbox"/> US\$ 590	
Student Non-Member Rate	<input type="checkbox"/> US\$ 215	<input type="checkbox"/> US\$ 255	
<small>You can join WAS on the reverse side and use</small>			
<b>TRADE SHOW PASS</b> <span style="float: right;"><small>(Trade show pass is included with the Full Conference Registration)</small></span>			
<small>Good for 3 days admission to exhibits only - December 11-14, 2021</small>			
		<input type="checkbox"/> US\$ 30	<b>TOTAL TRADE SHOW PASS</b> US\$ _____
<b>INDUSTRY TOURS</b> - Details to come			<b>TOTAL INDUSTRY TOURS</b> US\$ _____
<b>MEMBERSHIP DUES</b> - Enter amount from Membership Application on other side if applicable.			<b>TOTAL MEMBERSHIP DUES</b> US\$ _____
<b>Do not mail registration after Feb. 28, 2022 or fax after Feb. 28, 2022</b> <b>After February 28, bring this form with you to register at the show.</b>			<b>TOTAL AMOUNT US\$</b> _____

**Registration Confirmation and Receipt will be emailed after processing.**

CANCELLATION POLICY: Cancellation of registration must be received - in writing - no later than February 28, 2022. Refunds for registration fees will be subject to a 20% handling fee. Refunds are processed after the conference. No refund will be made for cancellations received after February 28, 2022 or for "no shows". After February 28, 2022, no refunds will be made for professional or personal emergencies, flight cancellations, denied visa, weather related cancellation or other travel emergencies. Fees for memberships are non-refundable.

**PAYMENT METHOD:** All fees must be paid to the order of AFRAQ2021. **For bank transfer details, contact us.**

Check # \_\_\_\_\_
  Visa
  Mastercard
  American Express
  Discover
  Diners Club

Card # \_\_\_\_\_ Expiration Date \_\_\_\_\_ Sec Code \_\_\_\_\_

Name on Card \_\_\_\_\_ Date \_\_\_\_\_ Signature \_\_\_\_\_

Credit Card Billing Address \_\_\_\_\_

# REGISTRATION FORM - SIDE 2

Name \_\_\_\_\_

**ASSOCIATION MEMBERSHIPS:** Please check all boxes for associations for which you are a current member. Membership in any of those associations qualifies you for the Member Rate\* on the Registration Fees. You can join an association at any time before registering to qualify for the Member Rate.

**MEMBERSHIPS:**  WAS  USAS  APC  Korean  LACC  African Chapter

## AFFILIATE MEMBERSHIPS:

- |  |  |
|--|--|
| <input type="checkbox"/> Aquabio                                 | <input type="checkbox"/> IAFI International Association of Fish Inspectors |
| <input type="checkbox"/> Aquaculture Association of Canada       | <input type="checkbox"/> Indonesian Aquaculture Society                    |
| <input type="checkbox"/> Aquaculture Association of South Africa | <input type="checkbox"/> Korean Aquaculture Society                        |
| <input type="checkbox"/> Aquaculture Without Frontiers           | <input type="checkbox"/> Korean Society of Fisheries and Sciences (KOSFAS) |
| <input type="checkbox"/> Asian Fisheries Society                 | <input type="checkbox"/> Malaysian Fisheries Society                       |
| <input type="checkbox"/> China Society of Fisheries              | <input type="checkbox"/> Sociedad Brasileira de Acuicultura                |
| <input type="checkbox"/> Egyptian Aquaculture Society            | <input type="checkbox"/> Society of Aquaculture Professionals (India)      |
| <input type="checkbox"/> European Aquaculture Society            | <input type="checkbox"/> South African Aquaculture Society                 |
| <input type="checkbox"/> Global Aquaculture Alliance             | <input type="checkbox"/> Spanish Aquaculture Association (SEA)             |

**MEMBERSHIP APPLICATIONS**  NEW APPLICATION  RENEWAL

## WORLD AQUACULTURE SOCIETY (WAS) APPLICATION [www.was.org](http://www.was.org)

For details on the different types of memberships and options, please contact the WAS home office at

Tel: +1-225-578-3137 Fax: +1-225-578-3493 Email: [judya@was.org](mailto:judya@was.org)

### MEMBERSHIP CATEGORY: (Indicate only one)

- Individual** (Electronic JWAS) (USD 65/yr) Applies to an individual only
- Individual** (Printed JWAS) (USD 110/yr) Applies to an individual only
- Individual** (E Access) (USD 45/yr) Applies to an individual only
- Student** (Electronic JWAS) (USD 45/yr) (Copy of Student ID or Signature of Professor required)
- Student** (Printed JWAS) (USD 90/yr) (Copy of Student ID or Signature of Professor required)
- Sustaining** (Electronic JWAS) (USD 105/yr) Applies to any one individual from a company
- Sustaining** (Printed JWAS) (USD 150/yr) Applies to any one individual from a company
- Corporate** (Electronic JWAS) (USD 255/yr) Allows all employees of one company to attend meeting at Member Rate
- Corporate** (Printed JWAS) (USD 300/yr) Allows all employees of one company to attend meeting at Member Rate
- Lifetime** (Electronic JWAS only) (USD 1000 with no chapter) Applies to an individual only

### CHAPTER OPTIONS:

One chapter included in membership. Mark the chapter you choose.

- Africa**
- Asian Pacific**
- Korea**
- Latin American/Caribbean**
- United States (USAS)**
- None** (deduct USD 5)

You can add extra Chapters for USD 5

Total Amount for WAS Membership USD \_\_\_\_\_

Fees for memberships are non-refundable.

Please enter this amount under "Membership Dues" section on opposite side of this form.

For membership in other associations, please contact them directly.  
If you need a phone number, contact the Conference Manager (+1-760-751-5005).

## Engaging with Industry

The Aquaculture Africa events are all about communication with the sector. AFRAQ2021 will feature a special international trade exhibition, where Egypt and international companies will present their latest technologies, products and services. Both Standard and Corner booths will be available and each booth is 6m<sup>2</sup> (2x3m) and features walls, carpet, two chairs and one table, spotlights, one power outlet, fascia identification sign and two free passes for the conference. We can provide meeting points for industry associations, organization/industry panels or B2B meetings, platforms for satellite workshops of African aquaculture projects and other events. Organization/industry panel meetings will take place around the trade exhibition, and technical tours will be organized.

## Networking for Students

Special forums and events will be arranged for students attending AFRAQ2021 to enable networking and exchange of ideas. The forums/events will have a dedicated programme and include a special student reception. Students receive the full registration package plus the student reception. To qualify for the student rate, a copy of your student I.D. is required.

## Farm Tours

Aquaculture tours are being organized at some aquaculture projects and facilities near Alexandria. More details available on website.



### FULL CONFERENCE REGISTRATION INCLUDES:

- Admission to all sessions (including reception), seminars and the trade show.
- Conference bag and Show Directory
- Refreshment breaks (including lunch)
- Abstract App and/or Abstract Book

\*To qualify for Member Rate, you must be a WAS member in good standing

Trade Show Pass only –  
Valid whole period: USD30

# AFRAQ2021 Tentative Programme Overview

## Friday, March 25

<b>Aquaculture Tours</b>	<b>0700 - 1700</b>
<b>Registration Open &amp; Exhibit Set-up</b>	<b>1200 - 1700</b>

## Saturday, March 26

<b>Registration Open</b>	<b>0730 - 1700</b>
<b>Welcome Words &amp; Awards</b>	<b>0900 - 0920</b>
<b>Plenary Sessions</b>	<b>0920 - 1020</b>
<b>Opening Ceremony</b>	<b>1020 - 1040</b>
<b>Official opening exhibition</b>	<b>1040</b>
<b>Break</b>	<b>1040 - 1100</b>
<b>Trade Show</b>	<b>1000 - 1800</b>
<b>Sessions</b>	<b>1100 - 1220</b>
<b>Lunch</b>	<b>1220 - 1320</b>
<b>Sessions</b>	<b>1320 - 1540</b>
<b>Break</b>	<b>1540 - 1600</b>
<b>Sessions</b>	<b>1600 - 1740</b>
<b>Posters</b>	<b>1030 - 1800</b>
<b>Student Reception/Workshop</b>	<b>1900 - 2100</b>

## Sunday, March 27

<b>Registration Open</b>	<b>0730 - 1700</b>
<b>Sessions</b>	<b>0900 - 1020</b>
<b>Break</b>	<b>1020 - 1040</b>
<b>Trade Show</b>	<b>1000 - 1800</b>
<b>Sessions</b>	<b>1040 - 1200</b>
<b>Lunch</b>	<b>1200 - 1300</b>
<b>Sessions</b>	<b>1300 - 1540</b>
<b>Break</b>	<b>1540 - 1600</b>
<b>Sessions</b>	<b>1600 - 1740</b>
<b>Posters</b>	<b>1030 - 1800</b>

## Monday, March 28

<b>Registration Open</b>	<b>0800 - 1500</b>
<b>Sessions</b>	<b>0900 - 1020</b>
<b>Break</b>	<b>1020 - 1040</b>
<b>Trade Show</b>	<b>1000 - 1600</b>
<b>Sessions</b>	<b>1040 - 1200</b>
<b>Lunch</b>	<b>1200 - 1300</b>
<b>Sessions</b>	<b>1300 - 1540</b>
<b>Break</b>	<b>1540 - 1600</b>
<b>Sessions</b>	<b>1600 - 1740</b>
<b>Posters</b>	<b>1030 - 1600</b>
<b>Exhibit Move-out</b>	<b>1600 - 1900</b>

# AFRAQ2021 Steering Committee and National Organizing Committee

## AFRAQ2021 Conference Chairs:

- WAS African Chapter President & Egyptian Aquaculture Society Vice-President, EGYPT  
– Dr. Sherif Sadek
- Chairman of General Authority of Fisheries Resources Development (GAFRD), EGYPT  
– Prof. Salah Mesalhy Aly

## AFRAQ2021 Steering Committee (SC):

- President of SC and Prof. Emeritus of Fish Breeding and Genetics, Central Laboratory for Aquaculture Research (CLAR), EGYPT - Dr. Hussein Elghobashy
- OIE of WorldFish, EGYPT – Dr. Ahmed Nasr-Allah
- General Director: Central Laboratory for Aquaculture Research (CLAR), EGYPT  
– Prof. Amira Elhanafy
- Professor: Alexandria University, EGYPT - Prof. Abdel Fatah El Sayed
- Associate Prof: National Institute of Oceanography and Fisheries (NIOF), EGYPT  
– Dr. Eman Mamdouh
- Mr. Ramadan Abdou, Chairman of the Egyptian Union of Fishermen Cooperatives (EUFC), EGYPT
- Co-ordinator: Zambia Aquaculture Development Programme (ZAEDP), ZAMBIA  
– Dr. Alexander Shula Kefi
- WAS African Chapter Secretariat, SOUTH AFRICA – Mr. Blessing Mapfumo

## AFRAQ2021 National Organizing Committee (NOC):

- Dr. Doaa Hamam, International Relations Department (GAFRD)
- Mr. Khaled El-Agroudi, Public Relations Department (GAFRD)
- Dr. Amr Moneer Helal, National Institute of Oceanography and Fisheries (NIOF)
- Prof. Nevine Abou Shabana, National Institute of Oceanography and Fisheries (NIOF)
- Eng. Mohamed Gouda, Egyptian Union of Fishermen Co-operatives (EUFC)
- Prof. Abdel-Hamid Eed, Suez Canal University
- Eng. Aymen Rostom, Skretting, Egypt
- Eng. Hussein Mansour, Aller-Aqua, Egypt
- Ms. Sara Ossam, Alexandria University Student Coordinator

## AFRAQ2021 Program Co-Chairs:

- Prof. Salah Moselhy, GAFRD Chairman, Suez Canal University, EGYPT
- Prof. Peter Britz, Rhodes University, SOUTH AFRICA
- Dr. Jean-Michel Mortillaro, CIRAD, MADAGASCAR



## Location - Alexandria City

Aquaculture Africa (AFRAQ2021) will be held at the Bibliotheca Alexandrina in Alexandria City, Egypt.

For more information about the Bibliotheca Alexandrina, visit: [www.bibalex.org](http://www.bibalex.org)

For more information about Alexandria City, visit <http://www.touregypt.net/alexandria/>

## AFRAQ2021 Contacts

For more information, please stay in touch with AFRAQ2021 Conference Management Team or visit our website [www.was.org](http://www.was.org)



### Conference Management

Mailing Address:

PO Box 2302

Valley Center, CA 92082 USA

Tel: +1-760-751-5005

Fax: +1-760-751-5003

Email: [worldaqua@was.org](mailto:worldaqua@was.org)

Web: [www.was.org](http://www.was.org)

### Trade Show, Exhibition and Sponsorship

Email: [mario@marevent.com](mailto:mario@marevent.com)

Web: [www.marevent.com](http://www.marevent.com)

### African Chapter of the World Aquaculture Society (WAS-AC)

C/O AUDA-NEPAD Agency

230, 15th Road

Midrand • South Africa

Phone: +27766318729

[africanchapter@was.org](mailto:africanchapter@was.org)

