



CONNECTIONS

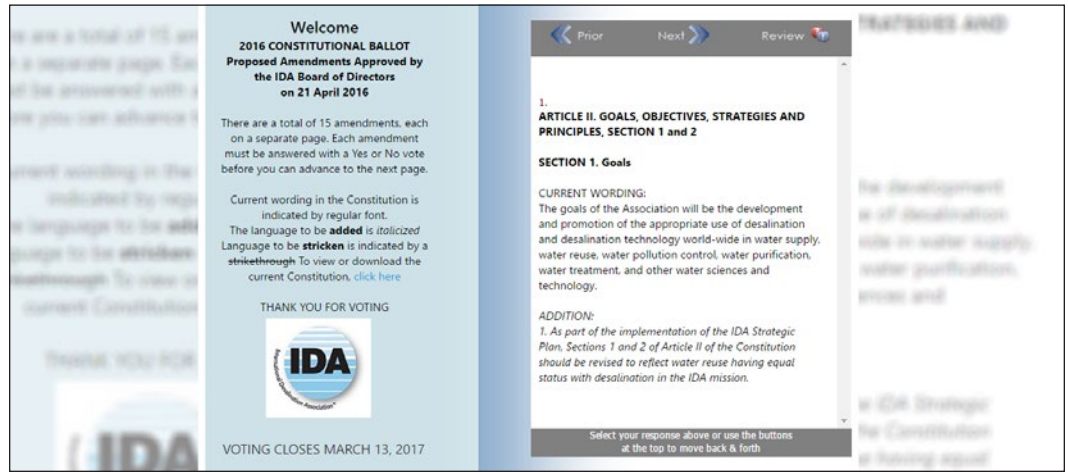
November / December 2016

Connecting People and Ideas to Water Solutions

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Voting for Constitutional Amendments Nears



The IDA Constitution requires that proposed Constitutional amendments be published twice prior to the commencement of voting. The first publication, for purposes of information, appeared in the September/October issue of IDA Connections, and the second and final publication, for purposes of voting, follows in this issue.

Voting on the proposed amendments will commence five days after this issue of the newsletter is published on the IDA website, and all Class I and Class II members are eligible to vote. If you are a Class I or Class II member, you will receive an e-alert with a link to the online voting.

Written more than 30 years ago, the IDA Constitution outlines the policies and procedures that guide the Association’s operation, and it has served us well over those years. The proposed changes – several of which are based on goals put forth in the 2014-2019 Strategic Plan – are intended to better position IDA for the fu-

ture and to respond to the many changes that have taken place in the industry, our organization, and society itself, since the Constitution was first written.

As stated by Carlos Cosín, Chairman of the Constitution and Bylaws Committee, “Our singular goal is to better position IDA for the future as the leading global association dedicated to desalination and water reuse. It is a goal that we take very seriously and an aspiration that we share with you and our fellow members.”

We encourage you to be part of this important process by voting. As an IDA member, you play an essential role in charting the Association’s future. Every vote counts, because in order for an amendment to pass, at least one-third of the membership must return their ballots before the ballots are counted, and then two-thirds of those voting must cast an affirmative vote for that amendment to be approved.

The full text of the first publication follows.

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message

from the Secretary General

Patricia Burke



The start of the New Year is always a time for making resolutions and looking towards the future. With that in mind, I'd like to offer some thoughts.

Adding value. When we were developing the 2014-2019 Strategic Plan, we queried members about what they perceived to be the greatest value in being part of IDA. We thought that the answers would fall into categories like our events, or our publications, but the overwhelming response was that IDA's true value lies in the connections that membership helps facilitate. Clearly, some of this takes place during events such as the World Congress, but even outside of our events, membership provides ready access to new colleagues in the public and private sectors around the world – the best and brightest minds in our industry.

Providing educational opportunities. We are proud to announce the newest IDA Fellow – Holly Johnson Churman, P.E., who will soon begin an attachment with PUB, Singapore's national water agency as the recipient of the 2016-2017 IDA Fellowship Program Award. This program is one of many that have been designed to increase educational opportunities including the Channabasappa Scholarship and of course, the IDA Academy. We hope that in the coming year, you will take advantage of our many education resources.

Developing the next generation of water leaders. Since its founding in 2009, the IDA Young Leaders Program has been aimed at providing opportunities for professionals 35 years of age or under to advance their careers. The YLP Mentor Program is the latest initiative designed to do this, pairing YLP members with distinguished industry veterans who can offer advice and share their own experiences to the mentees. We are very pleased to see the success of this program and would like to encourage our young leaders to take advantage of this wonderful opportunity.

Exploring trends that are impacting our industry. From increased energy efficiency to best environmental practices or the Internet of Things (IoT), IDA will sharpen its focus on key trends by adding a new column in our newsletter that

explores these kinds of issues. Look for the first contributed piece in our next issue. And if you would like to contribute an article, we would like to hear from you!

Upcoming events. Of course, the IDA World Congress in São Paulo will be the centerpiece of IDA's activities in 2017. This landmark event – our first Congress and only our second event to be held in Latin America – demonstrates IDA's global reach and our commitment to promote the use of desalination and water reuse in all parts of the world.

We have been welcomed to Brazil by a broad array of constituents, from governmental entities to the corporate sector. As you will see in this issue of IDA Connections, many institutions have become strategic partners in Brazil and will help us promote participation in the World Congress. This is a wonderful win/win for IDA, the institutions, and of course, their members and other colleagues who take part in the World Congress, as this event brings unprecedented access to a global "think tank" of industry leaders.

Exhibition sales have been brisk, and we are fortunate to have as the venue the Golden Hall in the World Trade Center – a location uniquely designed so that any location maximizes opportunities for interaction with delegates and other exhibition attendees. The Exhibition is always a high-light of the Congress and this one will be no exception.

We'll soon be notifying authors about the status of their abstracts in the Technical Program. Many thanks to everyone who submitted an abstract for consideration.

Voting and proposed Constitutional Amendments. In closing, I would like to encourage all eligible IDA members to participate in the voting for the proposed Constitutional amendments. IDA is your Association, and your vote is your opportunity to help shape its future.

Wishing each of you a happy, healthy and successful New Year!

Notice of Proposed Constitutional Amendments

APPROVED BY THE IDA BOARD OF DIRECTORS on 21 APRIL 2016

The IDA Constitution requires an official notice be provided to the IDA membership that amendments to the IDA Constitution have been proposed and approved by the IDA Board of Directors. Following a general review of the IDA Constitution, as part of its responsibility to ensure the Association's fiduciary stability and organizational wellbeing, the Board approved the proposed specific revisions and changes to the IDA Constitution on 21 April, 2016.

The proposals have been submitted in compliance with requirements of Article VIII Amendments, of the IDA Constitution. In accordance with Article VIII, notice was given, in the September/October 2016 issue of IDA Connections (IDA's member newsletter), to all members that the following amendment proposals will be submitted to members for voting.

In accordance with Article VIII, Section 4, Voting, the voting will open within 5 (five) days after final publication of the proposed Amendments, contained herein in the November/December 2016 Newsletter. The voting will be limited to Class I, and Class II members. An online ballot will be provided for voting.

In accordance with Article VIII, Section 5, Adoption, an affirmative vote by at least two-thirds of the Class I and Class II members who vote shall be required to adopt the Amendments. At least one-third of the Class I and Class II members must vote before the votes may be counted. If sufficient votes are not received within 50 days of the final publication, the Secretary will declare the proposed Amendments as not being adopted.

Amendments, certified by the Membership and Election Committee as having been adopted, shall take effect 30 days following the certification of the vote unless otherwise specified in the Amendment.

Please note:

- Current wording in the Constitution is indicated by regular font.

- The language to be added is italicized.
- Language to be stricken is indicated by a ~~strikethrough~~.

To view or download the current Constitution, visit www.idadesal.org

ARTICLE II. GOALS, OBJECTIVES, STRATEGIES AND PRINCIPLES, SECTION 1 and 2

SECTION 1. Goals

CURRENT WORDING:

The goals of the Association will be the development and promotion of the appropriate use of desalination and desalination technology world-wide in water supply, water reuse, water pollution control, water purification, water treatment, and other water sciences and technology.

ADDITION:

1. As part of the implementation of the IDA Strategic Plan, Sections 1 and 2 of Article II of the Constitution should be revised to reflect water reuse having equal status with desalination in the IDA mission.

ARTICLE VI. BOARD OF DIRECTORS

SECTION 1. Power and Duties

d. Audit and Financial Management

CURRENT WORDING:

To borrow money and incur indebtedness for the purposes of the corporation, and to cause to be executed and delivered in the corporate name promissory notes, bonds, debentures, deeds of trust, mortgages, pledges, or other evidence of debt and securities. However, any commitment for indebtedness above and beyond the assets of the Association must be approved by the membership.

ADDITION:

There will be an audit once each term of IDA financial data, financial position, and financial management performed by a reputable, qualified public accounting firm selected by the Board.

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Notice of Proposed Constitutional Amendments

ADDITION:

The draft independent audit report will be submitted to the Board for review and approval. After BOD approval, the final report of IDA financial position will be provided electronically to the general membership.

SECTION 3. General Member Representation

Item C. Nomination of General Directors

CURRENT WORDING:

The nomination of candidates for Director to be placed on a ballot will be undertaken by the Membership and Election Committee in an open and fair manner which will reasonably permit any Class I or Class II member or their Designated Representative to stand for election within the context of the member's cultural tradition.

Except for 1985, all persons who have been continuous active members or Designated Representatives in the Association for at least one (1) year at the time that the nomination period begins are eligible to stand for election as a Director.

DELETED TEXT TO BE REPLACED WITH NEW WORDING:

One (1) full term of membership will be required for candidates for election to the Board.

ADDITION:

No more than two directors from any one organization, including subsidiaries and affiliates, may serve in any one term of the Board of Directors.

ADDITION:

No member of the IDA may serve more than four consecutive terms as a member of the Board. A member serving four consecutive elected terms as a member of the Board must have a two-term absence from the Board before again being a candidate for the BOD. This requirement will be effective for the election of the Board for the term commencing in 2019.

*** Note: The Board approved (motion 7-8) on September 28, 2016, that an appropriate staggering mechanism will be defined to ensure an orderly and fair transition of IDA Board Members.**

SECTION 6. Resignation

ADDITION: If a Board member resigns from the Board, the vacancy will be filled by a special election unless the

effective date of the resignation is less than six months from the end of the term of the Board. In this situation, the vacancy will continue until filled in the regular election.

SECTION 10. Vacancies

CURRENT WORDING:

A vacancy of General Director due to resignation, death, or removal shall be filled by appointment for the remaining term of office by a General Member or its Designated Representative whose name is agreed upon jointly by the President and the two Vice Presidents. The appointment must be confirmed by a majority of all of the Directors in order to take effect.

NEW WORDING:

The current procedure for vacating an IDA Office will be revised to clearly state that is to be used only for removal for cause: i.e., unethical activities or unsatisfactory performance of duties.

ARTICLE VII. OFFICERS

SECTION 1. Officers

CURRENT WORDING:

The Elective Officers of the Association will be the President, First Vice-president, and Second Vice President. The Appointive Officers of the Association will be the Treasurer, Secretary, Editor, Secretary-General, and Comptroller.

These Elective Officers shall be elected by the Directors as the first order of business at the first meeting of the newly elected Directors.

Until an Elective Officer is chosen the meeting will be chaired by the previous President, First Vice President, or Second Vice President in that order.

The Appointive Officers of the Association will be filled by an appointment, which is agreed upon jointly by the President and two Vice Presidents. The appointment must be confirmed by the Board in order to take effect. The term of office for the Elective and Appointive Officers will be from the time of election or confirmation until the new board begins their term of office.

The voting to elect or confirm officers of the Association will be conducted on the following basis:

The President and two Vice Presidents will be elected on the basis of a two-thirds majority in an open vote of the Board.

Notice of Proposed Constitutional Amendments

*DELETED TEXT TO BE REPLACED WITH NEW WORDING:
The Elective Officers of the IDA (President, 1st Vice President, and 2nd Vice President) will be elected by absolute majority of all Directors. Voting will be by secret ballot.*

ADDITION:

Terms of Appointive Officers will be for two years with no limitation on renewals other than those applicable to Board membership for positions held by BOD members.

ADDITION:

The positions of Parliamentarian and Dean of the IDA Academy will be included in listing of Appointive Officers. The Parliamentarian must be a member of the Board. The duties of these Offices will be included in the Constitution.

ADDITION:

The start and end of the term of Appointive Officers who are not required to be Board members will be one year later than the start and end of the terms of the Board and the Elective Officers. This will facilitate continuity of activities and give the incoming Board an opportunity to evaluate performance before being renewed. Incumbents will be given 6 months notice of renewal or non-renewal. The notice will require confirmation by a simple majority of the entire Board. The Appointive Officers of the IDA will be elected by absolute majority of all Directors. Voting will be by secret ballot.

ADDITION:

All Appointive Officers of the IDA who are receiving salaries or other payments for their services will have employment contracts with the IDA. The contracts should specify duties, salaries, any other payments for services, terms and conditions of employment, and employee benefits. The contracts should be with the Board with the President signing on behalf of the Board after Board approval.

SECTION 2. President

CURRENT WORDING:

The President must be a Director and must be able to commit to the time necessary to fulfill the duties of the office. The President must be succeeded after one term by a Director from another region.

ADDITION:

Candidates for the Office of President must have served at least one term as a member of the Board and have been a VP or the chairperson of a Standing Committee.

SECTION 3. First Vice President

ADDITION:

Candidates for Vice President must have served one term on the Board.

SECTION 4. Second Vice President

ADDITION:

Candidates for Vice President must have served one term on the Board.

SECTION 5. Treasurer

CURRENT WORDING:

The Treasurer shall keep an account of all monies received and expended for the use of the Association. The Treasurer shall make disbursements authorized by the Board. All sums received shall be deposited in the bank or banks, or trust company, approved by the Board, and the Treasurer shall make a report annually in an Association publication, at the Association's Technical Conference and when called upon by the President. Funds may be drawn only upon the signature of the Treasurer or his/her appointed representative(s) as approved by the Board. The Treasurer may appoint with approval of the Board one or more assistants or the Secretary-General to perform such duties as the Treasurer may delegate.

The funds, books, and vouchers in the Treasurer's hands shall, at all times be subject to verification and inspection by the Board and the Comptroller. The Treasurer shall be a Director.

ADDITION: The Treasurer will provide the proposed budget for each IDA financial year to the Board of Directors for review, comment, and approval. The Treasurer will monitor actual cost performance against budget and provide quarterly reports to the Board.

ARTICLE IX. COMMITTEES

SECTION 2. Standing Committees

CURRENT WORDING:

The Association shall have nine Standing Committees. Those shall be Operations, Finance, Constitution and Bylaws, Publications, Membership and Election, Conference, Education and Scholarship, Audit and Technical Programs. Except for the Audit Committee each standing committee shall be chaired by a Director. A Director

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Notice of Proposed Constitutional Amendments

may serve on a maximum of two Standing Committees. Each committee must be composed of a minimum of two Directors and except for the Operations Committee may be composed of additional active members. The Operations Committee shall be composed of eight Directors, which will include the President, First Vice President, and Second Vice President. The Publications Committee will include the Editor. The Finance Committee will include the Treasurer. The Audit Committee will include the Comptroller who will be the Chairman. The remaining members of the Audit Committee may not be Directors nor may they not have or have had business dealings during the past year with the Association. The Membership and Election Committee must have at least one General Member for each region.

ADDITION:

The Constitution will include a brief description of the duties of each of the Standing Committee. It is suggested that each committee submit a draft description to the Chairman of the Constitution and Bylaws Committee and the Chairman of the Operations Committee.

ARTICLE XI. BALLOTING

SECTION 1. General

CURRENT WORDING:

~~Recognizing the worldwide distribution of the Association's Membership, all balloting of the General Members will be conducted using a mail ballot. Any balloting procedure will be directed by the Nominations and Election Committee. Ballots will be distributed and forwarded to members in a manner which will assure that all eligible Class I and Class II members have a reasonable opportunity to participate in the voting.~~

DELETED TEXT TO BE REPLACED WITH NEW WORDING:

Voting for Amendments to the Constitution and voting for the Board of Directors will be by electronic means that provide for anonymity, verification of membership, and protection against multiple votes by one person.

SECTION 2. Distribution of Ballots

CURRENT WORDING:

Unless otherwise specified ballots will be distributed and forwarded to all eligible voters using a time schedule

determined and published by the Nomination and Election Committee which reasonably permits each Class I or Class II Member, or its Designated Representative, to have the ballot at the member's mailing address for at least fifty (50) days and be returned to a designated point, or points, by airmail in time to be included in the final count and tabulation.

ADDITION:

Dissemination of information regarding candidates for the Board of Directors and the ballots for voting in the election of the Directors will be distributed by electronic means.

SECTION 3. Anonymity of Voter

CURRENT WORDING:

~~Balloting is to be conducted in a manner to preserve the anonymity of the voter but permit the verification of the eligibility of the General Member or the Designated Representative to vote.~~

NEW WORDING:

Voting for candidates for the Board of Directors will be by electronic means that provide for anonymity, verification of membership, and protection against multiple votes by one person.

SECTION 4. Tabulation

CURRENT WORDING:

~~The ballots must be opened and counted in the presence of at least three General Members or their Designated Representatives at each place selected to receive and tabulate the ballots. These members will be appointed by the Chairman of the Nomination and Election Committee. Ballots may not be opened or counted until after the end of the voting period. The results of the balloting will be certified and made public by the Chairman of the Nomination and Election Committee within thirty (30) days of the close of the voting period. The results will be published in the next Association publication.~~

NEW WORDING:

Votes in the election of Board members and in the voting on Amendments to the Constitution will be counted by an independent teller contracted or appointed to the task.

Setting up for the 4th Industrial Revolution



**By Paul O'Callaghan,
BlueTech Research**

January, like the two-faced god after which it is named, is always a time for looking ahead and behind. But these two perspectives need to be viewed concurrently. The future is always best informed by the past. So the key

themes that we at BlueTech Research have documented over 2016 are important indicators of what we might expect in 2017.

Last year was all about nutrients, and this is a trend that is set to continue over the next four to five years. The nutrient-removal market in the US in particular seems poised to grow. There are many drivers for this, among them regulations and the infrastructure gap.

Companies are positioning themselves for this era, driven by the need for innovation. Paques, a provider of biological wastewater and gas treatment, licensed Anammox® to Ovivo for the North America market. RHDHV (Royal HaskoningDHV) licensed Nereda® to Aqua Aerobic Systems. XPV Water Partners has created a purpose-built water entity called Nexom, which acquired Blue Water Technologies. Other companies are chasing this market, which also includes membrane aerated biofilm reactors (MABR).

A second trend is a revival of market opportunities in China. With tightening regulations on industrial discharges, that is leading to a pull for international technologies – in particular technologies relating to zero liquid discharge (ZLD) with companies such as Oasys and Aquatech finding success in the Chinese market. The tendency now is for smaller technology companies to find larger local partners.

A push towards advanced technologies was also noticeable in 2016, including advances in oxidation technologies with the drivers being micro-pollutants, water reuse and antibiotic-resistant bacteria, for which more research is being done on advanced treatment of hospital wastewaters.

If there is to be an over-riding theme for 2017, it will

certainly relate to the Internet of Things (IoT), big data and intelligent water systems. This covers every element of the water cycle, from the reserve to the drinking water distribution system to the wastewater treatment plants to how the consumer uses the water. Change happens faster than we sometimes think, and water is like an open economy that is affected by macro-level changes and we are not isolated from them.



Aquatech ZLD System in China



Forward Osmosis skids courtesy of Oasys

To help analyze trends in big data and make sense of it, we leveraged BlueTech Semantic Analysis tools to analyze conference paper texts in 2016 with those from 2015. The following are examples of two trends that emerged.

One was that the term “one water” appeared in seven papers last year, but zero papers in 2015. This indicates that it is an evolving concept that may have a tangible effect on the reuse market. “One water” paves the

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Reflections on IDA Energy & Environment Forum

By Rick Stover and Leon Awerbuch

The IDA Energy & Environment Forum, held in Miami, Florida, USA on December 7-8, was a success. Attended by invited leaders of the global desalination and water reuse community, the theme of the Forum was “*Creative Solutions and Innovative Strategies to Today’s Water Challenges.*” The Forum addressed three main goals:

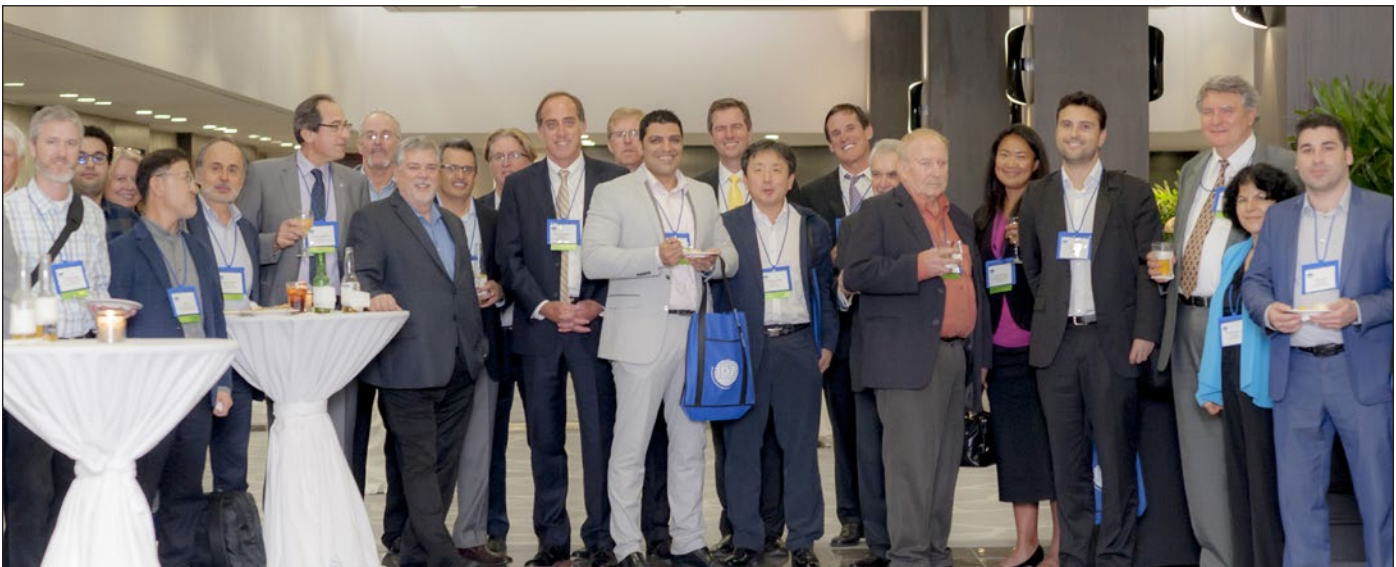
- Brokering knowledge of the best available and most appropriate technologies and practices for energy efficiency and environmental stewardship in desalination and water reuse in accordance with IDA’s mission statement,
- Raising awareness of the national importance of water as committed to during the White House Water Summit in 2016, and
- Identifying and prioritizing solutions that reduce CO₂ emissions and promote the use of renewable energy in desalination and water reuse in accordance with the mission of the Global Clean Water Desalination Alliance (GCWDA) – H₂O minus CO₂ – launched in Paris during COP21 in December 2015. IDA is a founding member of the GCWDA.

Forum participants contributed information, ideas and practical experiences from around the world. The program consisted of presentations, panels and discussions on topics including:

- The Current State and Future of Water Recovery and Reuse
- Low Carbon Desalination
- Sustainable and Renewable Desalination and Water Reuse
- Current and Emerging Membrane Technology
- Environmental Issues of Seawater Intakes and Outfalls
- Energy and Efficiency in Desalination
- Progress in Energy Recovery Solutions
- Solar, Nuclear and Geothermal Desalination

The Forum proceedings articulated the state of the art of energy and environmental issues in desalination and water reuse and established guidelines for energy efficiency and environmental stewardship for sustainable water supply for future generations. There was clear consensus that seawater, brackish water and wastewater are the only truly sustainable water resources. Energy efficiency and environmental stewardship in desalination and water reuse are essential, in part because waste has financial consequences. Forum presentations and discussions documented the breakthroughs and accomplishments that have made desalination and water reuse the reliable and affordable utilities that they are today while reflecting a strong commitment to innovation and improvement.

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COUNTDOWN TO IDA WORLD CONGRESS

The eagerly anticipated IDA World Congress in São Paulo opens in just 10 months. IDA is pleased to announce several exciting developments as we count down to a week filled with information, insights and valuable new connections.

Registration Opens in January

Take advantage of our early bird discounts! Online registration opens in January and the early bird discount deadline will be posted on the World Congress website. All IDA members are also eligible for a member discount – offering the best registration value when coupled with the early bird discount. To register online, visit <http://wc.idadesal.org/registration/>

IDA is also offering a special registration package for delegates from Brazil. Click [here](#) to take advantage of this offer.

Please feel free to share these links with colleagues, and be sure to regularly check the World Congress website, wc.idadesal.org, for updates and more World Congress news.

Exhibition Update

While nearly half of booth spaces have been reserved, the unique oval layout of the Exhibition in the Golden Hall of the World Trade Center offers all exhibitors prime space locations and the opportunity for maximum interaction with an expected 1,200 conference delegates and visitors from around the world – no matter where your booth is situated. A state-of-the-art facility, the Golden Hall features amenities ideal for showcasing your company, products and services.

IDA is offering two high profile display options for exhibitors: a Shell Scheme Display and Space Only Display.

In addition, organizations headquartered in Brazil are eligible for a special exhibition program. Exhibition prices are outlined in detail on the World Congress website at http://wc.idadesal.org/wp-content/uploads/2012/07/WC2017_ExhibitorProspectus_10.3.16.pdf

IDA will also continue its popular “Loyalty Rate” program for companies that exhibited at the last two World Congresses as well as discounts for IDA Corporate Members. Exhibitors also receive value-added benefits that vary depending on size of the booth:

- If you book a booth of more than 24 square meters, you’ll receive two full complimentary Congress registrations as well as guest passes for access to the exhibition only.
- Booths up to and including 24 square meters qualify for one full complimentary Congress registration plus five guest passes for access to the exhibition only.
- Exhibitors receive one booth-only personnel registration for every 9 square meters of space booked. This includes access to the Welcome Reception.

Complete information is available on the IDA World Congress website <http://wc.idadesal.org/exhibition/>. A listing of all the exhibiting companies can be found here <http://ida.enoah.com/Events/World-Congress-2017/Exhibitor-Directory>. We invite you to join other leading companies from around the world who have already reserved their exhibition space!

Please contact us at exhibits@idadesal.org or by telephone at +1-978-887-0410 if you have any questions or are interested in an exhibit/sponsorship combination package.

IDA World Congress Spotlight

IDA Announces Two New Sponsors for the World Congress

IDA welcomes two new World Congress sponsors: Toray Membrane, USA, which will sponsor our Welcome Reception, and RWL Water, which has signed on as a Bronze Sponsor.

Toray Membrane offers integrated skills and expertise in water and wastewater treatment technologies, high quality membranes and complementary water treatment products to help our customers improve their competitiveness and plant performance. It is one of very few companies with expertise across the entire spectrum of high-performance water treatment membranes, including reverse osmosis (RO) membranes, nano-filtration (NF) membranes, ultra-filtration (UF) membranes, micro-filtration (MF) membranes and membrane bioreactors (MBR).

RWL Water is a leading-edge sustainable water, wastewater and reuse solutions company. With more than 7,000 successful installations and strong customer references in more than 70 countries, RWL Water has proven its capability to provide innovative global water, wastewater and energy solutions whenever and wherever they may occur.

IDA offers numerous sponsorship opportunities. Please see our sponsor brochure http://wc.idadesal.org/wp-content/uploads/2015/01/IDA-17WC-Sponsor-Broch_12.22.16.pdf for available options, and we can also work with you to tailor a package that best meets your needs. Become a sponsor today <http://wc.idadesal.org/exhibition/sponsorships/>!



Technical Program Update

Once again, IDA thanks all authors who have submitted abstracts for consideration in the Technical Program for the World Congress. The submission site is now officially closed. Please note the revised list of important dates related to presentations in the Technical Program.

Notification status of submitted abstracts (accepted/declined)	January 31, 2017
First draft manuscripts of accepted abstracts due	March 15, 2017
Presenter co-authors listings: profiles completed in IDA database website	March 15, 2017
Draft manuscripts review process	April - May
Second announcement (available)	April
Final manuscripts and copyright agreements due	June
Presenters register for Congress	June (early discount ends)
Notification of presentation assignments (Podium Oral or Digital Poster)	June/July
Advance Program available	July
Presenter introduction final edits (database bio profile)	August
Draft PowerPoint presentations review process	August / September
Welcome to the Congress (check-in)	October

Please direct all inquiries to Ms. Darlene Seta, World Congress Technical Program Manager at papers at idadesal.org.

Brazilian Supporters Announced

The following Brazilian organizations have been confirmed as strategic partners for the 2017 IDA World Congress. Each organization will actively participate in the Congress with initiatives such as email marketing and disseminating news to their colleagues that will greatly boost the ability to attract participants from Brazil to this Congress and bring the maximum benefit to the country.

IDA welcomes their participation and seconds their enthusiasm in supporting an event that presents a tremendous opportunity to discover new water desalination and reuse technologies and other water technology sciences, and also offers great networking opportunities. The hope is that the IDA World Congress will bring positive impacts to the Brazilian economy, and also to academic and institutional organizations in this region of Latin America.

Following is an overview of the World Congress Brazilian Strategic Partners.

ABCON/SINDCON

About ABCON

Public Water and Sewer Services joins private companies that provide public water and basic sanitation services, as well as other companies in the civil construction and infrastructure sectors. ABCON's mission is to foster and promote private participation in public water and sewer services, in addition to representing and advocating for the interests of its members, according to governmental guidelines and principles aimed at preserving public health and protecting the environment.

This is done by exercising the following activities:

- Providing programs, studies, and research that favor progress and technological innovation in the sector, geared towards guaranteeing excellence in the quality of services and products.
- Representing the private sector at the federal, state and municipal levels before the executive, legislative and judicial branches.
- Sponsoring studies, research, and events on matters related to preserving the environment and public health.
- Promoting initiatives to strengthen the sanitation and environmental industry in Brazil, with a view to providing services at a high degree of quality and efficiency.

- Cooperating with and supporting initiatives by government, regulatory, technical, scientific, and corporate agencies, in Brazil and abroad, aimed at in-depth contributions to the debate on the country's sanitation sector and possible approaches to universalization of services essential to public health, quality of life, and environmental protection.

About SINDCON

Founded in January 2001, SINDCON – the National Union of Private Concessionaires of Public Water and Sewer Services – joins private concessionaires of public water and basic sanitation services in the country, working as the technical arm of the ABCON. The organization fosters and promotes training for high performance at private companies in the basic sanitation sector, working with technological support, human resources, sustainability initiatives, and other actions that deserve replication in the concessionaire universe.

Operating democratically and transparently, SINDCON promotes integration of its members through open debate and by proposing topics relevant to the industry's progress and in favor of improving the provision of services.

SINDCON's mission is to promote private participation in public water and sewer services through incentives for efficient management of concessionaire companies and technical and management training programs, in line with governmental guidelines and principles aimed at preserving public health and protecting the environment.

Both **ABCON** and **SINDCON** want to be recognized by society, sanitation industry agents, and governments as organizations that strive for a standard and the quality of their institutional representation, based on ethical and reputable principles, working towards development of the industry and promoting private operations that act effectively, transparently, fairly, and universally.



IDA World Congress Spotlight

AIDIS

AIDIS, the Interamerican Sanitary and Environmental Engineering Association, is a not for profit scientific civil society. It includes the main student and professional institutions of the Americas that are dedicated to environmental, sanitary and health preservation. Its mission is to promote the public health and quality of life of the inhabitants of the Americas, as well as environmental protection and conservation through the convergence of sanitary engineering and environmental sciences with other disciplines that seek sustainable human development.

AIDIS was founded in 1948, just seven days after the establishment of the World Health Organization (WHO). Since then, it has collaborated closely with WHO, ensuring recognition and representation at executives assemblies and committees at WHO and Panamerican Health Organization (PAHO).

The association reaches 32 countries in the American continent and the Caribbean. It currently has 10,000 associates in its 24 national sections. Headquarters are located in São Paulo, Brazil.



ANEAS

With 35 years of experience, the National Association of Water and Sanitation Utilities of Mexico (ANEAS) is an umbrella organization of the national drinking water utilities. Its basic objective is to support increased efficiency in the delivery of services and foster the level of human capital professionalism and autonomy.

ANEAS was founded as the Water and Sanitation Companies of Mexico A.C. (EAS) in 1992 in Cancun, Quintana Roo. It changed its name to the National Association of Water and Sanitation Utilities in February 1998. It is a private non-profit organization composed of state and municipal water systems of Mexico as well as private firms, and academic and trade agencies involved in the sector that provide and exchange knowledge and experiences to achieve individual and collective objectives.

The organization provides legal, legislative and tax consultancy services for capacity building, certification development, and technical support to improve the operation and maintenance of water systems; and representation before authorities and various processes; act as liaison with national and international organizations in sharing experiences and knowledge. It also organizes workshops, courses, seminars and events in Mexico and at international level.

ANEAS's mission is to represent, serve and promote the interests of its members before the three tiers of government, national and international organizations, and related institutions in order to contribute to the development, competitiveness and sustainability of the public, private or mixed utilities providing water services.



ABIMAQ

The Brazilian Machinery Builders' Association (ABIMAQ) was founded in 1975 with the goal of strengthening of the domestic industry by mobilizing the sector, performing actions with the political and economic spheres, stimulating trade and international cooperation, and contributing to enhance performance in terms of technology, human resources training and management modernization.

A national organization with 10 regional offices across the country, ABIMAQ represents nearly 7,800 companies from different segments of manufacturers of mechanical capital goods, whose performance has a direct impact on other domestic productive sectors.



CNI

The Brazilian National Confederation of Industry (Confederação Nacional da Indústria - CNI) is the official and highest-level organization representing Brazilian industry. Since its founding in 1938, CNI has defended domestic business and manufacturing interests, acting as the main interlocutor with the executive, legislative, and judicial branches of government, as well as with various organizations and entities in Brazil and around the world.

CNI represents Brazil's 27 state-level federations of industries and 1,245 sectorial employer's unions, to which almost 700,000 companies are affiliated. In addition, it directly administers the following organizations: Social Service of Industry (Serviço Social da Indústria - SESI), the National Service of Industrial Training (Serviço Nacional de Aprendizagem Industrial - SENAI) and the Euvaldo Lodi Institute (Instituto Euvaldo Lodi - IEL). Since its founding, CNI has played a leading role in Brazilian society, promoting debate and seeking consensus around key national issues, especially those that impact the performance of the Brazilian industry and economy.

A key voice on the national stage, CNI, which is headquartered in Brasília and has an office in São Paulo, discusses and puts forth suggestions to develop and improve public policies and laws that strengthen the productive sector and modernize the country. In addition, CNI advances research, innovation, and technological development of the national industry. Furthermore, it supports initiatives that seek to improve the standing, social status, and training of workers around the country. CNI's actions are based on studies and technical research, as well as consultations and ongoing dialogue with the federations of industries, and sectorial employer's unions, sectorial national associations, and business councils.

As the National Confederation of Industry, CNI has a global footprint. CNI is actively engaged in the regular work of key international organizations whose policy discussions directly affects Brazilian industry, including the International Labor Organization, the Organization for Economic Co-operation and Development, the United Nations Framework Convention on Climate Change, the World Intellectual Property Organization and the World Trade Organization. The Confederation is also an

active member of worldwide business coalitions such as the "Business 20" (B-20) group and regularly attends international business gatherings as the World Economic Forum. In addition to these initiatives, CNI also has representation in key policy centers through its membership of the Brazil Industries Coalition, in Washington, DC, and its partnership with the Brazilian Trade and Investment Promotion Agency in its office in Brussels.



Confederação Nacional da Indústria

CNI. A FORÇA DO BRASIL INDÚSTRIA

ABES is also a Strategic Partner. IDA will add information as it becomes available.



Young Leaders Spotlight

YLP Sponsors Young Professionals Mixer at IMSTEC

The IDA Young Leaders Program (YLP) hosted a “Young Professionals Mixer” in conjunction with the 9th International Membrane Science and Technology Conference (IMSTEC) in Adelaide, South Australia. Held on December 6, this Asia-Pacific regional educational event drew participation from approximately 40 students and early career researchers under the age of 35 from a variety of universities and organizations from several countries. The aim of the mixer was to represent, service, engage and inspire young professionals in the membrane and water sectors while also increasing visibility for the IDA Young Leaders Program and promoting desalination and water reuse as a career choice.

The event opened with a talk by Dr. Xing Yang, Special/ Technical Program Coordinator of the IDA YLP Committee and lecturer at the Institute of Sustainability & Innovation (ISI) at Victoria University. Dr. Yang presented the audience with the benefits of being part of the desalination industry and IDA’s global network, followed by an overview of the mission and activities of the IDA YLP.

The response from the audience regarding the YLP and membership was overwhelming. About 15 students expressed interest in IDA’s Mentor Program and signed up as possible mentees pending approval of their eligibility. The IDA Mentor Program connects an emerging industry professional (the mentee) with an industry leader through a one-on-one mentoring relationship that can lead to a transfer of knowledge and broadening of networks between the two. For mentees, this program presents an opportunity to draw on the experience of established industry professionals in terms of their technical knowledge and also their business experience.

The event concluded with a networking reception and poster session, providing a platform for young professionals to network, learn about exciting developments in the membrane and water industry, and share their own experiences and perspectives.

The IDA YLP is open free of charge to all IDA members 35 years of age or under. For information, visit www.idaylp.org



Note: IDA Connections wishes to thank Dr. Xing Yang for her report on this very successful event.

IDA Remembers Dr. Mahmoud Abdul Jawad



IDA has received news that long time IDA Director Dr. Mahmoud Abdul Jawad has passed away. Born in Jaffa, Palestine in 1942, he spent his early years studying, working and studying further, receiving his PhD in Inorganic Chemistry from Beford College in London in 1974. He began his

research career in Kuwait for WRDC (Water Resources Development Center of Kuwait's Ministry of Electricity and Water) in September 1974.

Later when desalination by reverse osmosis membrane came to Kuwait, via Kuwait Institute for Scientific Research (KISR), Mahmoud was seconded by the Ministry of Electricity and Water to join the Institute in 1986. Since then, water desalination became his main research interest until the end of his life.

In a few years he became known for his leadership in desalination research and served on the Board of Directors for the International Desalination Association. Dr. Jawad was always active and present in most international events and activities whenever time and his Institute allowed.

Dr. Jawad spent most of his life in Kuwait working for KISR as Principal Scientist, contributing enormously to research and development of desalination and water reuse. He was the driving force behind the first privatized waste treatment water project in Sulaibiya.

Being in Kuwait also enabled him to help his parents. "All along his life, he respected and loved his parents, knowing that it was his duty to be there for them and this was inculcated in his 3 sons, for which I am very glad and proud," recalls his wife Doris.

She added that "Mahmoud was more than an adviser to his colleagues and subordinates at work. He was a mentor and a role model in many ways, inspiring his colleagues and encouraging young researchers and professionals, etc., to learn and study more about water

desalination and to make them realize that water desalination offers tremendous opportunities on multiple levels and in actual fact it sustains the future of Kuwait and probably the whole Gulf region. He was a staunch believer in this.

"He also felt that he should always be there to help people around him, on all levels, be polite to them, and when needed, he unrelentingly offered his help and provided assistance to solve their problems. Mahmoud earned unconditional love, trust and respect of all people around him.

"Throughout his life with his family and work, Mahmoud gave them all positive energy; and when he got ill, he gave a brave fight with courage and dignity till the very end. His life was simple and with honor, and I am sure he would like to be remembered simply as a good and decent man," she said.

Leon Awerbuch added that, "It is always very sad news to see one of our colleagues pass away. In the case of Dr. Mahmoud, he was very close personal friend. On the professional front, he did great research and development on energy recovery, RO and thermal processes. He worked successfully to bring our 1989 World Congress to Kuwait and was engaged in site selection discussions with IDA to bring the 2019 IDA World Congress to Kuwait. He was always helpful and enthusiastic about desalination. Through the last 35 years, we worked on new ideas together. I will miss him a lot."

"Mahmoud always expressed his love of IDA and especially for many of us, his close friends. Mahmoud never missed an opportunity to promote IDA both within Kuwait and outside of his area of expertise. He will be missed by all – condolences to his family and God rest his soul," said IDA Secretary General Patricia Burke.

In addition to his wife Doris, he leaves behind three sons, and legions of individuals whose lives he touched over the years.

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way for alternative approaches to wastewater reuse by enabling various sources to be combined – for example domestic, industrial and agricultural.

The second trend was that the term “granular sludge” appeared more frequently. There were 14 papers on this topic last year compared with seven in 2015.

An analysis of terms and changes in language can tell us a number of things, such as where the engineering community is focusing its attention and key topics that are being talked about. That is something that we will continue to invest in developing in 2016 leveraging BlueTech software to automate the process of extracting insights from data.

A lot of the movement that BlueTech sees relates to areas like energy and resource recovery, water reuse, ZLD, industrial water and advanced treatments, particularly towards trying to find different applications that require higher and more differentiated technology.

We will collate and share our research all these themes at the 2017 BlueTech Forum in Dublin on 6-7 June 2017. The theme will be Water and the 4th Industrial Revolution, touching on topics like circular evolution, robotics, artificial intelligence, 3D printing, the move to energy neutrality and water resilience.

Paul O’Callaghan is Chief Executive of BlueTech Research. He can be reached at paul.ocallaghan@bluetechresearch.com. For more information on the BlueTech Forum expert speakers and key themes, please visit www.bluetechforum.com.

IDA Welcomes New Members

Individual Members

Alain Silverwood, Canada

Bruce D. Goodin, United States

Bruno Valente Villegas Lira, Saudi Arabia

Chen-Hua Ni, Taiwan

Chi Siang Ong, Malaysia

Francis Bordeleau, Canada

Gary Hines, United States

Hiam Hedhiri, United Arab Emirates

Jack Walsh, United States

Jason Roberts, United States

Jessica Boynton, Ph.D, United States

Joseph Vernot, United States

Keith R. Solar, United States

Masahiro Henmi, Japan

Masanobu Osawa, Japan

Mohammed Hamad Al Shahrani, Saudi Arabia

Nurit Kress, Israel

Oliver Jacobs, Germany

Richard Lemieux, Canada

Rudolf Edlinger, Austria

Shadi Wajih Hasan, United Arab Emirates

Thomas Rockelein, Spain

Viviana Rodriguez, Chile

Yoshinari Fusaoka, Japan

Student Members

Adam A. Atia, United States

Enzo Rene Garcia-Bartolomei, Chile

Gideon Sarpong, United States

Yaixin Hu, III, Australia

The Miami Forum was a continuation of IDA's focus on energy efficiency and environmental stewardship from two earlier conferences – "Desalination and the Gulf: The Relationship between the Environment and Meeting the Region's Water Needs" held in Manama, Bahrain and "Desalination: An Energy Solution" held in Huntington Beach, California, USA. The Forum's agenda and leadership also drew from the ongoing work of IDA's Energy and Environment Committee.

The presentations and discussion notes from the Forum are being compiled in a Blue Paper. IDA invites all Forum attendees to submit additional information, elaborate on the topic that they presented at the Forum, or provide comments related to the Forum proceedings to conferences@idadesal.org by January 31. The Blue Paper will be published early this year and made available to all IDA members. The Blue Paper will also be presented at the 2017 IDA World Congress in São Paulo and offered to the Global Clean Water Desalination Alliance.

IDA is grateful to the Forum participants and to the American Water Summit and Global Water Intelligence who hosted a co-located event focused on "Catalyzing Collaboration" with public, private and industrial water sectors.

Directors of IDA, Rick Stover and Leon Awerbuch co-chaired the IDA Energy & Environment Forum. They can be reached at Richard.L.Stover@gmail.com and leton@comcast.net

Holly Johnson Churman Named Recipient of 2016-17 IDA Fellowship Award



IDA is pleased to announce that Holly Johnson Churman, P.E., Technology Manager at Water Standard, is the recipient of the 2016-17 IDA Fellowship Award.

Ms. Churman will receive a monetary award of \$10,000 US and will participate in a four-week attachment with

PUB, Singapore's National Water Agency, host agency for the 2016-17 IDA Fellowship Program.

A statutory board under the Ministry of the Environment

and Water Resources, PUB is the water agency that manages Singapore's water supply, water catchment and used water in an integrated way. PUB has ensured a diversified and sustainable supply of water for Singapore with the Four National Taps (local catchment water, imported water, NEWater, desalinated water), a globally recognized model for integrated water resources management.

Ms. Churman has worked in the water industry since 2008, and has been with Water Standard since 2012. There, her responsibilities as Technology Manager include managing efforts related to research, demonstration and integration of water treatment technologies as well as identifying, adapting and applying new technology and best practices for use in challenging energy industry applications. Previously, she was Senior Applications Engineer / Process Engineer – Desalination, at Veolia Water Solutions & Technologies.

She is actively engaged in industry associations, serving on the IDA Young Leaders Program Committee, the IDA Publications Committee, and the Technical Committee for the Produced Water Society. She was also a member of the Steering Committee for the 2016 American Water Summit.

Ms. Churman earned a M.S. in Environmental Engineering and Science from Stanford University and a B.S. in Environmental Engineering and Science from the Massachusetts Institute of Technology (MIT). Earlier in 2016, she was a lecturer at the Texas A&M GPRI Water & Wastewater Short Course, and she also served as an Undergraduate Teaching Fellow at MIT on the topic of "Solving Complex Problems."

Inaugurated in 2008, the IDA Fellowship is one of the industry's most prestigious awards. Its purpose is to promote greater interaction and sharing of knowledge, technologies and processes in the desalination and water reuse industry, thus benefitting not only the Fellow and host agency, but also the industry at large.

For further details about the IDA Fellowship Program and application guidelines, please visit www.idadesal.org or email education@idadesal.org.

Calendar of Events

January 16-19, 2017

International Water Summit
Abu Dhabi, UAE
www.internationalwatersummit.com

February 13-17, 2017

AMTA/AWWA 2017 Membrane Technology
Conference & Expo
Long Beach, CA, USA
www.amtaorg.com

March 28-30, 2017

WSTA 12th Gulf Water Conference
Manama, Kingdom of Bahrain
www.gulfwaterconference.com/index.php

May 16-18, 2017

Ozwater '17
Sydney, Australia
www.ozwater.org

May 25-26, 2017

CaribDA Two-Day Workshop
Punta Cana, Dominican Republic
www.caribda.com

September 3-7, 2017

EuroMed 2017
Tel Aviv, Israel
www.edsoc.com

October 15-20, 2017

IDA 2017 World Congress
São Paulo, Brazil
www.idadesal.org/2017-ida-world-congress

October 31-November 3, 2017

Aquatech Amsterdam 2017
Amsterdam, The Netherlands
www.aquatechtrade.com/amsterdam

May 6-10, 2018

Desalination for the Environment, Clean
Water and Energy
Nantes, France
www.edsoc.com

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