



**CloroSur**

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## **XII CLOROSUR Technical Seminar** **WCC Safety Workshop & Sustainability** **Table-Top Expo**

November, 20 - 23  
Costa do Sauípe, Bahia - Brazil

**2022**



**Costa do Sauípe**  
parques & resorts



**CLOROSUR** is pleased to invite you to take part in the 12<sup>th</sup> International Technical Seminar, which is being held from November 20 to 23, 2022, in Costa do Sauípe, in the State of Bahia, Brazil. At the same time as the CLOROSUR Technical Seminar, we will be promoting an exhibition (Table Top Expo) with technology suppliers, material and equipment manufacturers, as well as companies that provide services to the chlor-alkali industry. This exhibition will allow those who are taking part in the event to find out the latest developments in the chlor-alkali sector.

Together, the Technical Seminar and Table-Top Expo make up an event that is designed for professionals in the chlor-alkali industry who wish to make connections and exchange experiences.

The Technical Seminar presentations are aimed at displaying the latest developments in technology, health and safety. The Table-Top Expo is an opportunity for the industry stakeholders to showcase new technologies, services and processes.

The event's participants are professionals in the industry, including producers, distributors and users of chlorine, along with others.

This year's program will feature technical presentations on processes, services, together with a section focused on safety and sustainability. There will also be a workshop dealing with issues involving technology exchange, in accordance with the Minamata Convention.

We would like to thank all of the speakers for accepting the invitation from CLOROSUR to show us what their companies have been developing in terms of technology and services aimed at the chlor-alkali sector.

We would like to extend a special thank-you to our sponsors, exhibitors and supporters.

We hope you all have an excellent event!



## I. Overview of Hotel

Part of the Costa do Sauípe hotel complex, Sauípe Resorts – All Inclusive is set within a natural reserve on 6 km of panoramic white sand beach. With 10 outdoor pools and a swim-up bar, guests can enjoy all-inclusive service.

With modern, colorful decor and plenty of natural light, the air-conditioned rooms feature a balcony, a flat-screen cable TV and a minibar. Private bathrooms include a bath or shower, hairdryer and free toiletries.

Sauípe Resorts – All Inclusive offers several free entertainment options, including live music, dance shows and art exhibitions. Children can enjoy the Sauípe Kids Club, a space designed for them to have fun with exclusive entertainment staff.

Guests also have free access to some areas of the resort, including the Sauípe Sports, gym and Japanese-style hot tub inside the wellness Centre.

This resort is 76 km from Luís Eduardo Magalhães Airport. The property has free public parking.

## II. Transfer

For those participants who have contracted the service with Reload Viagens, there will be a team from the agency to meet them at the airport and take them to the transfer, in medium-sized cars and vans.

The distance to the hotel is about 80 km (and it takes between 1 hour and 1 ¼ hours)

At the entrance of the Costa do Sauípe complex, there is a security check point. The transfer car will have the guests' details so that they can give them at this gate.

The drive from the complex entrance to the hotel reception takes roughly 8 minutes.

If you need to request a transfer, please get in touch with the travel agency: [negocios@reloadviagens.com.br](mailto:negocios@reloadviagens.com.br)

## III. Check in and check out

The travel agency Reload Viagens will organize the pre-check-in for all the participants and provide the hotels' reception areas with all of the guests' personal information so as to speed up the process upon their arrival;

There will be hotel receptionists and a team on hand to assist the participants at check-in

Access to the rooms will be granted after 3.00 p.m.

Checkout is up until midday. Any requests to the contrary should be made to the hotel reception.

Costa do Sauípe Premium Sol includes the ALL-INCLUSIVE system (breakfast, lunch, dinner, drinks during meals, afternoon snacks, minibar items, drinks from the bars in the hotel lobby and at the swimming pool)

During the days and hours of the corporate event, there will be a team from the Reload travel agency available to respond to the participants' requests and answer their doubts.

For those who will be staying at any of the complex's other hotels, Costa do Sauípe will provide cars for them to make the round trip from their hotels to the event site (Sol Premium).

## **IV. Registration**

Registration and the welcome ceremony will take place in the Ouro Preto Room of the Premium Sol hotel on 20/11/2022 between 6.00 p.m. and 7.00 p.m.

## **V. Dress code**

For the days of the event and the cocktail and dinner, we suggest Smart Casual attire.

**CLOSUR Technical Seminar - WCC Safety Workshop & Sustainability  
Table Top Expo / Sauípe, Bahia / Brazil  
November 20 – 23, 2022**

## Premium Sol - Ouro Preto Room Presentation Topic and Speakers

<b>Sunday</b>	<b>7:30 PM - 8:30 PM</b>	<b>Reception and Registrations at the Foyer – Sol Premium – Ouro Preto Room</b>
<b>Monday</b>	<b>07:00 AM – 08:00 AM</b>	<b>Registrations and Tour of the Table -Top Expo</b>
	08:00 AM – 08:15 AM	Maurício Parolin Russomanno – Host and Chairman of the Bord of CLOSUR
	08:15 AM – 08:30 AM	Néstor Gómez Alcorta - Chairman of the Deliberative Council of CLOSUR
	08:30 AM – 09:10 AM	International Chlor-alkali Scenario: Lina Suarez - Chemical Market Analytic by OPIS / Dow Jones Company (By live-stream)
	09:10 AM – 09:40 AM	The Road to Continuous Improvement: Ton Manders/Euro Chlor (By live-stream)
	09:40 AM – 10:10 AM	Chlorine Service Control Valves - Euro Chlor Zero Environmental Leakage vs. Valve Performance: Nick Greenall, European Sales Director & Global Marketing Director/Hunt&Mitton
	<b>10:10 AM – 10:30 AM</b>	<b>Coffee Break and Tour of the Table-Top Expo</b>
	10:30 AM – 11:00 AM	Caustic Soda evaporation: Valérie Teil - Sales Director, CSO/BERTRAMS
	11:00 AM – 11:30 AM	Energy savings for sustainable caustic evaporation in existing and new plants: Steen Hinge, Senior Process and Marketing Manager /Alfa Laval
	11:30 AM – 12:00 PM	Designed for sustainable benefits, HCl synthesis units by SGL Carbon: Daniel Hoff - Head of Global Project Engineering & Process Design/SGL CARBON
	<b>12:00 PM – 01:30 PM</b>	<b>Lunch</b>
	01:30 PM – 02:00 PM	From chlorine to chlorine – Chlorinated Plastic for Chlorine Plant: José Agatonice Brito / GLASTEC
	<b>02:00 PM – 05:00 PM</b>	<b>Tour of the Table-Top Expo</b>
	<b>02:30 PM – 03:30 PM</b>	<b>Closur Board Meeting (CLOSUR Board member only) – In parallel with the Mercury Workshop</b>
	<b>02:10 PM – 05:30 PM</b>	<b>Mercury Workshop (CLOSUR Mercury process producers only)</b>
	02:10 PM – 02:40 PM	Process Safety Considerations for Plant Conversion: TON Manders / EURO CHLOR (By live-stream)
	02:40 PM – 03:20 PM	Mercury Plants Remediation experiences and next steps: Ulises Saldaña / Cydsa (Mexico)
	03:20 PM – 03:50 PM	Mercury stabilization / temporary storage and final safe disposal: Angels Castellnou - Commercial Manager / BATREC (Veolia)
	03:50 PM – 4:10 PM	Mercury stabilization / temporary storage and final safe disposal: Rafaela Craizer, Technical Director/REMONDIS, BlackForest Solutions (By live-stream)
	<b>04:10 PM – 04:30 PM</b>	<b>Coffee Break and Tour of the Table-Top Expo</b>
	04:30 PM – 05:00 PM	Soil Remediation (Europa/AL): Matthijs Bouwknegt/TAUW Group
	<b>05:00 PM - 05:30 PM</b>	<b>Wrap Up</b>
	<b>07:00 PM – 09:30 PM</b>	<b>Welcome Cocktail and Typical Show of Bahia - Pool Space</b>
<b>Tuesday</b>	<b>07:00 AM – 08:00 AM</b>	<b>Registrations and Tour of the Table-Top Expo</b>
	08:00 AM – 08:10 AM	Open session – Milton Rego: Executive President of CLOSUR
	08:10 AM – 09:10 AM	Carbon Policy (Green investments and carbon market): BNDES (By live-stream) Márcio Henriques, Gerência de Inteligência de Mercado and Fabio Rego Ribeiro, Head of Carbon Markets

	09:10 AM – 09:40 AM	Chlor-alkali and hydrogen electrolyzer: Germano Damiano - Head of Sales/TK NUCERA
	09:40 AM – 10:10 AM	Improving Safety, Reliability and Productivity Using Complex Process Modelling and Plant Automation: Felipe Santos, Senior Lead Process Engineer/INEOS
	<b>10:10 AM – 10:40 AM</b>	<b>Coffee Break and Tour of the Table-Top Expo</b>
	10:40 AM – 11:10 AM	Blue Star – Development in the Americas: Jacques Lehre/CHOSTAR
	11:10 AM – 11:40 AM	Membranes - The future of electrolysis as a smart cell room from R2: Leandro Silva/R2
	11:40 AM – 12:10 PM	Flemion® Membranes: Takayuki Kaneko, R&D Manager/AGC Inc.
	<b>12:10 PM – 01:30 PM</b>	<b>Lunch and Tour of the Table-Top Expo</b>
	01:30 PM – 02:00 PM	Power Rectifiers for high performance operations: Daniele de Palo / Friem
	02:00 PM – 02:30 PM	High Power Rectifiers - Providing the right chemistry for over a century: Max Canova Bonani Francisco /ABB
	02:30 PM – 03:00 PM	Practical experiences from projects with conversion from mercury to membrane electrolysis technology: Constanza Berckemeyer/CAC
	03:00 PM – 03:30 PM	EPC Road Map: Arun Tyagi - General Manager/Nuberg
	03:30 PM – 04:00 PM	EPC - Cost Advantages of Skid Mounted CA Plants: Heinz Mezgolits/Conve Corp
	<b>04:00 PM – 04:20 PM</b>	<b>Coffee Break and Tour of the Table-Top Expo</b>
	04:20 PM – 04:50 PM	Chlor-alkali Revamp electrolyzer after sales support: Matteo Gamondo - Managing Director/TK NUCERA
	04:50 PM – 05:20 PM	De Nora's Value-added Coatings for Chlor-Alkali & Safe solutions to Chlorine gas feeding for Water treatment: Mônica Freitas and Luiz Sussumu / DENORA
	<b>05:20 PM - 05:30 PM</b>	<b>Wrap Up</b>
	<b>08:00 PM - 10:30 PM</b>	<b>Dinner at Baêa Restaurant - Vila da Praia</b>
<b>Wednesday</b>	<b>08:00 AM – 08:30 AM</b>	<b>Tour of the Table-Top Expo</b>
	<b>08:30 AM – 08:40 AM</b>	<b>Open session - Frank Reiner – President / Chlorine Institute (By live-stream)</b>
	08:40 AM – 09:10 AM	Emergency Transportation Response - CHLOREP and TRANSCAER: Robyn Kinsley - VP, Transportation & Emergency Preparedness/The Chlorine Institute (By live-stream)
	09:10 AM – 09:40 AM	Chlorine Cardinal Rules & Jack Rabbit Large Scale Chlorine Release trials: Robyn Brooks – VP, Health, Environment, Safety and Security/The Chlorine Institute (By live-stream)
	09:40 AM – 10:10 AM	ESG - Materiality Abiclor/Cetesb: Tatiana Araújo - Corporate Sustainability
	10:10 AM – 10:50 AM	Routes for the production of renewable low-carbon hydrogen: Prof. Helton José Alves - Technical and Scientific Director ABH2 & Prof. Federal University of Paraná/Brazil
	10:50 AM – 11:20 AM	Hydrogen safety in Chlor-alkali: TON Manders – EURO CHLOR (By live-stream)
	<b>11:20 AM – 11:40 AM</b>	<b>Coffee Break and Tour of the Table-Top Expo</b>
	11:40 AM – 12:00 PM	Good practices in handling liquid chlorine: Walter Fredes - Chlorine Technical Chief/TRANSCOLOR
	12:00 PM – 12:30 PM	Emergency Response Chlor Alkali – Dennys Spencer – COO/Ambipar Response
	<b>12:30 AM – 12:40 PM</b>	<b>Closing &amp; Remarks - Néstor Gómez Alcorta - Chairman of the Deliberative Council of CLOROSUR</b>



# Speakers

**Lina Suarez, Chemical Market Analytic by OPIS, Dow Jones Company**

Lina joined Chemical Market Analytics by OPIS (formerly IHS Markit) in early 2019, as Director, Caustic Soda Americas Market Research, providing market discovery, analysis and reporting for caustic soda in North America and select countries of Latin America. Ms. Suárez holds a Bachelor of Science degree in Chemical Engineering and a Finance MBA. Prior to joining Chemical Market Analytics by OPIS, she worked as a sales executive and product manager in multiple Latin American countries for twenty years, gaining deep petrochemical and chlor-vinyls industry knowledge and broad expertise in chemical market analysis, sales and management. Her experience includes positions with Quimica Delta as Product and Commercial Director for the Base Oils and Solvents business units in Mexico, Commercial Director PMV / Mexichem Mexico guiding chlor-alkali, ethylene and VCM business strategies and commercial operations, and experience defining new business models and executing sales programs in Mexico, Colombia and Brazil for chemical and oil companies including 3M Colombia, DuPont México, Chevron México and BP México. Lina's extensive experience in the integrated chlor-alkali, ethylene and vinyls production and commercial chains further contributes to Chemical Market Analytics by OPIS industry-leading expertise in chlor-vinyls and chlor-alkali derivatives.

**Title of presentation:** International Chlor-alkali Scenario:

**Ton Manders, Euro Chlor**

Ton studied chemical engineering at the Technical University of Eindhoven in the Netherlands, graduating in 1984. After his military service, he began his career in 1986 as Process Engineer at Akzo Nobel Engineering in the Netherlands. In 1994, he joined the Chlor-Alkali business unit of AkzoNobel Industrial Chemicals. In this area, he was project manager for several projects. From 2005 to 2016, Ton was responsible for Technology, Research and Development in the chlorine and chloromethane business of AkzoNobel Industrial Chemicals (today Nobian). During that period, he was also an active member of the Euro Chlor GEST (Safety and Transport) and General Technical Committee (GTC) Working Groups. In June 2016, Ton started in Euro Chlor as Technical and Safety Director.

**Title of presentation:** The Road to Continuous Improvement

**Title of presentation:** Process Safety Considerations for Plant Conversion

**Title of presentation:** Hydrogen safety in Chlor-alkali

**Nick Greenall, HUNT & Mitton Valve Company**

Nick is a commercially orientated and successful business leader with a 36 years career operating effectively at Director, Senior Management and Product Management levels in large corporate and SME valve manufacturing companies. He has many years of experience in Sales & Marketing in the USA, Europe, SE Asia and the UK.

**Title of presentation:** Chlorine Service Control Valves - Euro Chlor Zero Environmental Leakage vs. Valve Performance

**Valérie TEIL, Bertrams Chemical Plants Ltd**

Valérie, is executive sales director at Bertrams Chemical Plants Ltd. A French national, Mrs. Teil is responsible for global sales of chemical plants at Bertrams's headquarters in Muttens, Switzerland.

She holds a master's degree in Chemical & Process Engineering from the University of Technology of Compiègne. After a first experience as project manager for a leading supplier in evaporation and crystallization, she joined Bertrams Chemical Plants Ltd in 1998 where she specialized in the concentration of caustic solution and processing technologies to produce solid caustic in form of flakes or prills.

She has industrial experience in process design, overseas marketing, sales and business development. She has been providing tailor-made process solutions for customers in the chlor-alkali industry throughout her professional career.

**Title of presentation:** Caustic Soda evaporation

**Steen Hinge, Alfa Laval**

Steen is senior process engineer and marketing manager for evaporation systems to the worldwide Chemical Industry. Master degree in Energy systems and Thermodynamics from University of Southern Denmark. Has worked with evaporation systems since 1987, based on the 35 years' experience gathered extensive knowledge in all areas of evaporation plant design and performance. For the last 15 years specialized on Caustic Concentration Evaporation performing R&D, design, and performance evaluation of new and existing caustic evaporation plants on a global basis. Have been in the design team for the first four effect caustic evaporation plant implemented in Germany in 2015.

**Title of presentation:** Energy savings for sustainable caustic evaporation in existing and new plants

**Daniel Hoff, SGL CARBON**

Daniel, Chemical Engineering graduated from FAU University in Erlangen, Germany, responsible for project engineering and process design globally within SGL's process technology segment. Before SGL, worked several years as a project manager at InfraServ in Gendorf, Germany. In 2009, joined SGL and since then has worked in several positions within the process technology product segment.

As Sales and Process Engineer he accompanied many systems projects from the first inquiry, through order processing, commissioning and after sales service. Daniel Hoff participated in the development of SGL's HCl synthesis units and as part of his job he has made several startups for many different systems that SGL designs

and manufactures

**Title of presentation:** Designed for sustainable benefits, HCl synthesis units by SGL Carbon: Daniel Hoff - Head of Global Project Engineering & Process Design

**José Agatonice Brito, GLASTEC**

José is a mechanical engineer by training, having completed his secondary education at the Federal Technical School - ETFAL, where he later took the technical course in mechanics, concluding it in 1982, graduating with a degree in Mechanical Engineering from the Federal University of Pernambuco - UFPE.

He worked at Usina Petribú S/A where he developed activities in relation to planning, materials specification, non-destructive testing, and monitoring of boilermaking services, assembly of piping, welding, refractory recovery, mechanical maintenance of pumps and steam turbines.

Since May 1996 he has been a partner at TECFIBRA & GLASTEC where he took over the position of Operations Director of the business group that operates in the following segments: chemicals, oil and gas, sanitation and construction, pulp and paper, mining/metallurgy, sugar and alcohol, providing Solutions in Composites for the whole of Brazil since 1985.

**Title of presentation:** From chlorine to chlorine – Chlorinated Plastic for Chlorine Plant:

**Ulises Agustin Saldaña Cervantes, Cydsa**

Ulises, Chemical Engineer, works at INDUSTRIA QUIMICA DEL ISTMO S.A. DE C.V. (GRUPO CYDSA) as Development and New Projects Manager and has been working in one Project for updating the only existing Mercury technology Plant to Membrane operating at Southeast Mexico. Vast and long experience for more than 40 years throughout his professional career in the Chlorine Caustic Industry performing various management positions such as; Production, Maintenance, Technical, Process, Engineering, Environmental Control, Quality Control, Strategic Planning, Development, Projects & Execution, Economic and Financial Evaluation Project,

Technology. Knowledge and extensive experience in the 3 technologies used in the Industrial Production of Chlorine Alkali like; Mercury, Diaphragm and Membrane. Has participated in several seminars and conventions related with Mercury & Membrane Technology for the production of Chlorine Alkali organized by Clorosur, the Chlorine Institute of North America, Nucera Thyssenkrupp, IHS and the World Chlorine Council. He has also participated in the Forums organized by United Nations to eliminate Worldwide the use of Mercury as; the INC (Intergovernmental negotiating committee) and Minamata Convention COP's 1, 2, 3 and 4, and also actively participates with the Government of Mexico during this process. He has also been in contact with organizations such as GEF, UNEP and UNIDO, Joint Credit Mechanism of Japan Government, seeking technical and economic support for the elimination of the use of Mercury and remediation of contaminated sites.

**Title of presentation:** Technology conversion (plant phase-out) Next steps

**Angels Castellnou, Batrec**

Angels is a Chemical Engineer, master in Environmental Chemistry and Pollution at the University of Barcelona. She is a certified auditor for Environmental Management Systems. She has been working in the Environment sector for 30 years, and especially in the International Hazardous Waste sector for the last 25 years. Started her career as a scientific researcher in France, on Air Pollution assessment, and back to Spain she continued her research on Environmental Chemistry. In 1998 she integrated the Hazardous Incineration plant GRECAT in Constantí, Spain -today a SARPI VEOLIA company- where she designed and managed the Laboratory. After 5 years she became Waste Flow Manager (Export of Waste).

In 2008 she joined the International Team in the Dutch company ATM as Sales Account Manager. ATM is a waste treatment facility that processes 2 M T of waste per year: Thermal Desorption, Waste Water treatment Plant, and Hazardous Waste incinerator. Her duty was to develop the industrial hazardous waste market in Spain, France and Latam. In 2020 she was appointed as Commercial Manager in BATREC, a Swiss SARPI VEOLIA company that is committed to offer responsible recycling services in the International Market: Batteries recycling, Activated Carbon reactivation, Mixed Mercury wastes and spent catalysts treatment, and Mercury stabilization.

**Title of presentation:** Mercury stabilization / temporary storage and final safe disposal

**Rafaela Craizer, REMONDIS, BlackForest Solutions**

Rafaela, Technical Director, is an environmental engineer with degrees from universities in Brazil, Australia and Germany. Her career in waste management got underway in 2010 with geotechnical monitoring of landfills in Rio de Janeiro. In 2012 she began her master's degree at the Technical University of Darmstadt in Germany and in 2013 she went to Tunisia to work for the German Development Agency (GIZ), also in the solid waste management field. In 2014 she started working for the ALBA Group in Berlin, which is one of the largest recycling waste management corporations in Germany, and where she had the opportunity to develop and manage projects in China, Hong Kong, Indonesia, Singapore, Afghanistan, Pakistan, Kosovo, Spain as well as in countries in the Middle East. Since

2018, she has been working as Technical Director for the German waste management specialist BlackForest Solutions. In addition to coordinating BlackForest's consulting and operations team, she also manages projects and develops new opportunities in Latin America, from her base in Brazil where she currently lives.

**Title of presentation:** Mercury stabilization / temporary storage and final safe disposal

**Matthijs Bouwknecht, TAUW Group**

Contaminated Land and Site Assessment Expert

Mr. Bouwknecht holds an BSc in Soil & Water Engineering and an MSc in International Land- and Water Management. He is employed at TAUW as a Contaminated Land and Site Assessment expert. He has a broad international track record and 17 years of professional experience with the investigation of a wide variety of sites and contaminants, including mercury contaminated factories and landfills as well as the decommissioning of production facilities. TAUW performed a large number of mercury focused assignments in various countries, most notably the decommissioning and final remediation of chlor-alkali industries.

**Title of presentation:** Soil Remediation (Europa/AL)

**Márcio Henriques, National Bank for Economic and Social Development (BNDES)**

Márcio has a degree in Production Engineering from the Federal University of Rio de Janeiro, an MBA in Finance from Victoria University in Australia and a post-graduate degree in Environmental Management from Cândido Mendes University. He has operated in the private sector in financial and mining companies and for the last 13 years has been working at the BNDES (National Bank for Economic and Social Development), where he has held positions in the financial, industrial, and international areas. He is currently in charge of Market Intelligence Management of the Base and Extractive Industries Department, which among other things, handles the mining, steel, chemicals, pulp & paper and cement sectors.

**Title of presentation:** Carbon Policy (Green investments and carbon market): BNDES (By live-stream)

**Germano Damiano / Head of Sales - TK NUCERA**

**Title of presentation:** Chlor-alkali and hydrogen electrolyzer:

**Felipe Santos, Ineos**

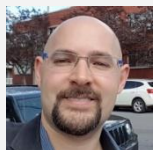
Felipe senior Lead Process Engineer with 16 years of experience on the Chlor-Alkali industry and its downstream processes. A seasoned professional with extensive knowledge of both Process Design and Plant Operations, familiar with all three main chlor-alkali technology processes, experienced in plant troubleshooting, debottlenecking, process simulation, risk assessments and the full lifecycle of capital projects from conceptual design to plant commissioning and start-up gained through working across multiple sites and projects in South America, United Kingdom and Belgium.

**Title of presentation:** Improving Safety, Reliability and Productivity Using Complex Process Modelling and Plant Automation

**Jacques LEHRE, Bluestar**

Jacques LEHRE is Marketing Director for the Americas at Bluestar (Beijing) Chemical Machinery Company (BCMC), a leading Chinese supplier of equipment and engineering for the chlor-alkali industry, including membrane electrolyzers. He has a combined experience of 25 years in chemical operations, business responsibilities and finance, mainly at French chemical group Rhodia (now a part of Belgian group Solvay). He has been supporting BCMC in developing sales in Latin America since 2017 with a first success in 2020 with Mexican group Cydsa (signing of an EPC agreement for a capacity of 150 KTPY of chlorine).

**Title of presentation:** Blue Star – Development in the Americas

**Leandro Silva, R2**

Leandro graduated in Chemical Engineering and received a master's degree in electrochemical reactors from the State University of Campinas (Unicamp). Research-wise, he had the opportunity to work as a reviewer of scientific articles for the Instituto Tecnológico Aeronáutico (ITA) in Brazil. With more than 15 years of experience in chemical and process engineering, Leandro has worked for major chemical corporations such as Braskem and Solvay. He is a chlor-alkali expert at R2 and has contributed to solutions such as EMOS® Advisory, an AI-powered tool for monitoring and guiding the chlor-alkali processes.

**Title of presentation:** Membranes - The future of electrolysis as a smart cell room from R2

**Takayuki Kaneko, AGC Inc**

Mr. Kaneko has been working for AGC since 2009. He has been in charge of ion exchange membrane FLEMIONTM for 10 years in the R & D Division in Japan. His responsibilities include the development of new membrane technologies and evaluations by laboratory cell operation. He is a graduate of Tokyo Institute of Technology with a Master Degree of Engineering. His major is electrochemistry and solid state chemistry.

**Title of presentation:** Flemion® Membranes

**Daniele De Palo, Friem**

Daniele, is sales engineer South America. Graduated at the University of Pavia, he holds a Bachelor Degree in Industrial Engineering and a Master Degree in Electrical Engineering. He has been working for FRIEM since the beginning of 2020. He had a significant experience in Alstom (2019-20) where he held the position of Power Engineer.

**Title of presentation:** Power Rectifiers for high performance operations

**Max Francisco, ABB**

Max joined ABB in 2008 as intern, working in project engineering team for High Power Rectifier and Excitation System. In 2013, Max started to work as sales support for Oil and Gas, Pulp and Paper and Mining opportunities and High Power customers on their needs for services and system projects, in different industries as chlor-alkali, chlorate, hydrogen, and others. He holds a Bachelor's Engineering Degree from Universidade de São Paulo and MBA Degree in Business and Project Management from FIA.

**Title of presentation:** High Power Rectifiers - Providing the right chemistry for over a century



**Constanza Berckemeyer, CAC Chemieanlagenbau Chemnitz GmbH**

Constanza is currently Sales Manager for Latin America and Southern Europe at CAC Chemieanlagenbau Chemnitz GmbH. She has worked for 10 years on the engineering consulting industry from Chile, Australia and Germany. Constanza has held various position as process engineer and project manager. She is putting this experience in the field of technical sales to support and provide solutions to customers.

She is a Chemical Engineer with a Master's Degree in Chemical Engineering, focused on the technical-economic analysis of energy systems.

**Title of presentation:** Practical experiences from projects with conversion from mercury to membrane electrolysis technology

**Arun Tyagi, Nuberg**

Arun is General Manager - Nuberg

**Title of presentation:** EPC Road Map

**Heinz Mezgolits - Conve Corp**

**Title of presentation:** EPC - Cost Advantages of Skid Mounted CA Plants

**Matteo Gamondo, TK NUCERA**

Managing Director

**Title of presentation:** Chlor-alkali Revamp electrolyzer after sales support

**Monica Freitas, DE NORA**

Monica, LATAM Regional Manager for the electrode business at De Nora do Brasil

Graduation - Chemical Engineering - Escola de Engenharia Mauá

Post-Graduation - Industrial Administration - Escola Politécnica da USP

MBA - Production Management - Escola Politécnica da USP

Specialties: Business Strategy, Sales Management, Operations Improvement, Mergers and

Acquisitions, Organization development, Strength-based Leadership, International Experience.

**Title of presentation:** De Nora's Value-added Coatings for Chlor-Alkali & Safe solutions to Chlorine gas feeding for Water treatment

**Robyn Kinsley, The Chlorine Institute**

Robyn Kinsley currently serves as the Chlorine Institute's (CI's) Vice President of Transportation & Emergency

Preparedness. Robyn first joined CI in February 2007 as the Project Engineer and worked her way up over the

years to eventually take on her current role in 2016. In this role, Robyn has responsibility for managing the

respective committees in the development of industry best practices and equipment design for transportation

and emergency response operations, ensuring emergency preparedness of members' chlorine response teams

and first responders, and advocating for reasonable transportation regulations and standards. She serves as

CI's primary government representative to DOT, TSA, and Transport Canada, as well as a shipper voting

member of the Association of American Railroad's Tank Car Committee. Robyn earned a B.S. in Chemical Engineering from

Rose-Hulman Institute of Technology (Terre Haute, IN) in 2002 and a Master of Business Administration at the George

Washington University (Washington, DC) in 2011.

**Title of presentation:** Emergency Transportation Response - CHLOREP and TRANSCAER

**Robyn Brooks, The Chlorine Institute**

Robyn serves as Vice President, Health Environment Safety and Security (HESS) at The Chlorine Institute (CI). In this role, Robyn provides staff leadership and support for the Institute's HESS activities including leading updates of CI pamphlets to reflect best industry safety practice. She also serves as the Institute's primary government representative to EPA, CSB, OSHA and applicable agencies within DHS. Prior to joining CI, Robyn served for three years with The Mosaic Company in production and engineering roles. Earlier, she held a variety of cooperative education assignments at the Dow Chemical Company and Alstom Power Company. Robyn is a Summa Cum Laude graduate with a B.S. in Chemical Engineering from the University of Tennessee at Knoxville and recently earned her Master of Business Administration from the University of Maryland-College Park.

**Title of presentation:** Chlorine Cardinal Rules & Jack Rabbit Large Scale Chlorine Release trials

**Tatiana Araújo - Corporate Sustainability**

Tatiana Araujo is a sustainability specialist with over 15 years' experience. Working as consultant and speaker. Expert in the integration of the Sustainable Development Goals (SDG) into business strategy, circular and ESG reporting, she is part of the advisory boards of Global Reporting Initiative (GRI), Netherlands. Tatiana is currently freelance, ESG Manager at Alter Content, Senior Sustainability Advisor at the Time and Place Consulting (Brussels), working also in partnership with the Global Compact Brazil and other institutions. Previously, Tatiana has worked at the Brazilian Business Council for Sustainable Development (BCSD-Brazil) and at large consultancies such as Deloitte and Bureau Veritas.

**Title of presentation:** ESG: Materiality Abiclor/Cetesb

**Helton José Alves, Brazilian Hydrogen Association - ABH2**

Helton has a degree in Chemistry from the State University of Maringá (2004), an MSc in Materials Engineering from the Federal University of Santa Catarina (2005) and a PhD in Materials Engineering from the Federal University of São Carlos (2009). He is a Level III Associate Professor at the Federal University of Paraná (UFPR), linked to the Undergraduate Course in ENERGY ENGINEERING. He is a CNPq (Brazilian National Council for Scientific and Technological Development) Level 2 Productivity Research Fellow - in the area of Energy Engineering (Energy from Biomass) and Scientific-Technical Director of the Brazilian Hydrogen Association. He is the Coordinator of the Materials and Renewable Energy Laboratory (LABMATER), and of RD&I projects in the following areas: catalytic conversion of biomass for hydrogen production, purification, storage and uses of biogas/biomethane, biodiesel, heterogeneous catalysis, synthesis of micro and mesoporous materials, nanomaterials and biopolymers. He is the head of the Catalysis and Biofuels Production research group. At present, he is the Superintendent of Partnerships and Innovation (SPIn) at UFPR.

**Title of presentation:** Routes for the production of renewable low-carbon hydrogen

**Walter Fredes, Transclor**

Walter Fredes - Transclor Chlorine Technical Chief.

He's been in the Chlor-Alkali industry for 22 years, working in different productive areas. During his career at Transclor, he has implemented improvements and good international practices regarding production, storage and handling of chlorine. Nowadays he is also a local and regional consultant in the industry.

**Title of presentation:** Good practices in handling liquid chlorine

**Dennys Spencer, Ambipar Response**

**Title of presentation:** Emergency Response Chlor Alkali



- |                                     |                           |                             |                                |
|-------------------------------------|---------------------------|-----------------------------|--------------------------------|
| 01 RECEPTIVO/PORTARIA               | 07 SALA DE EXERCÍCIOS     | 13 POUSADAS                 | 19 PRAIA DA SOLTURA            |
| 02 SAUÍPE NAUTICA                   | 08 SAUÍPE PREMIUM SOL     | 14 SAUÍPE RESORTS ALA TERRA | 20 PRAIA TRANQUILA             |
| 03 LOJINHA DO ROLE                  | 09 SAUÍPE RESORTS ALA MAR | 15 ARENA SAUÍPE             | 21 PRAIA SELVAGEM              |
| 04 BRIGADA DE INCÊNDIO POSTO MÉDICO | 10 SAUÍPE KIDS            | 16 SAUÍPE PREMIUM BRISA     | 22 RESTAURANTE BENDITOS FRUTOS |
| 05 SAUÍPE SPORTS   TENNIS           | 11 CIRCO DA VILA          | 17 SAUÍPE RESORTS ALA ÁGUA  | 23 RESTAURANTE BAËA            |
| 06 QUERMESSE DA VILA                | 12 VILA NOVA DA PRAIA     | 18 AVIVA VACATION CLUB      | 24 RESTAURANTE LA VILLA        |



# Meeting Guidelines

## Antitrust Guidelines for CLOROSUR Meetings

The following provides participants in Chlorine Institute meetings with the most general principles of antitrust laws. The many different situations in which the antitrust laws may be implicated are not covered by this document.

DO	DON'T
<p>Ensure strict performance in areas of:</p> <p><b>OVERSIGHT/SUPERVISION:</b></p> <ul style="list-style-type: none"> <li>• Have a CLOROSUR Secretariat representative at each CLOROSUR-sponsored meeting;</li> <li>• Consult with appropriate counsel on all questions related to competition law;</li> <li>• Limit meeting discussions to agenda topics;</li> <li>• Provide each company representative and CLOROSUR member association representative attending an CLOROSUR-sponsored meeting with a copy of this checklist, and have a copy available for reference at all CLOROSUR-sponsored meetings.</li> </ul> <p><b>RECORDKEEPING:</b></p> <ul style="list-style-type: none"> <li>• Have an agenda and minutes which accurately reflect the matters which occur;</li> <li>• Ensure the review of agendas, minutes and other important documents by appropriate staff or counsel, in advance of distribution;</li> <li>• Fully describe the purposes and authorities of task groups and work groups.</li> </ul> <p><b>VIGILANCE:</b></p> <ul style="list-style-type: none"> <li>• Protest any discussion or meeting activities which appear to violate this checklist; ask for those activities to be stopped so that appropriate legal check can be made by counsel; disassociate yourself from any such discussion or activities and leave any meeting in which they continue.</li> </ul>	<p>Do not, in fact or appearance, discuss or exchange information not in conformity with competition law, including for example on:</p> <p><b>PRICES, INCLUDING:</b></p> <ul style="list-style-type: none"> <li>• Individual company prices, price changes, price differentials, markups, discounts, allowances, credit terms, etc.;</li> <li>• Individual company data on costs, production, capacity, inventories, sales, etc.;</li> <li>• Industry pricing policies, price levels, price changes, differentials, etc.</li> </ul> <p><b>PRODUCTION, INCLUDING:</b></p> <ul style="list-style-type: none"> <li>• Plans of individual companies concerning the design, production, distribution or marketing of particular products, including proposed territories or customers;</li> <li>• Changes in industry production, capacity or inventories.</li> </ul> <p><b>TRANSPORTATION RATES:</b></p> <ul style="list-style-type: none"> <li>• Rates or rate policies for individual shipments, including basing point systems, zone prices, freight equalization, etc.</li> </ul> <p><b>MARKET PROCEDURES, INCLUDING:</b></p> <ul style="list-style-type: none"> <li>• Company bids on contracts for particular products; company procedures for responding to bid invitations;</li> <li>• Matters relating to actual or potential individual suppliers or customers that might have the effect of excluding them from any market or influencing the business conduct of firms toward them;</li> <li>• Blacklist or boycott customers or suppliers.</li> </ul>