SEAFOOD PROCESSING WASTEWATER & BY-PRODUCT RECOVERY CONFERENCE

April 1-3, 2019

Astoria, OR

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2019 Seafood Processing Wastewater & By-Product Recovery Conference

Conference Steering Committee

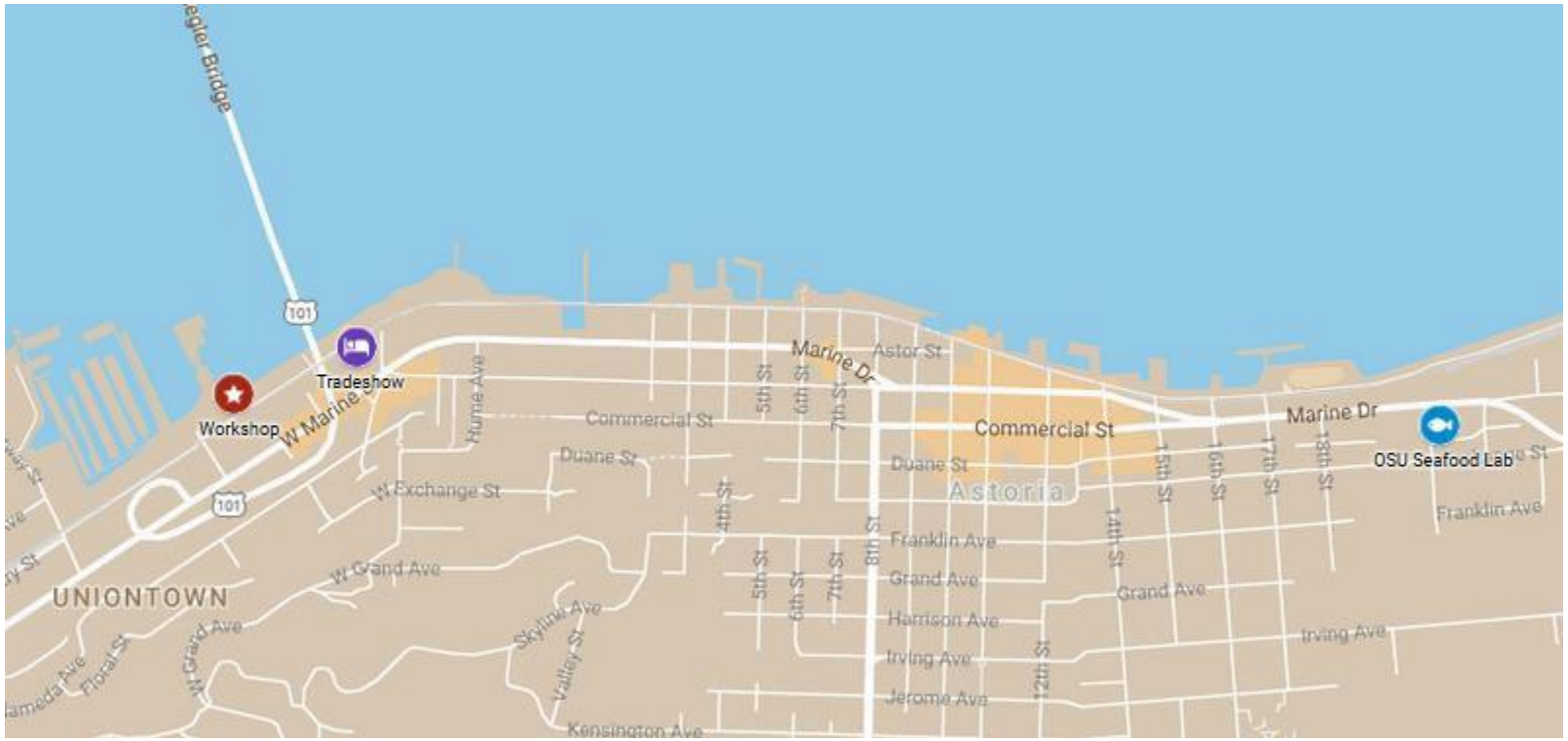
Angee Hunt	Oregon State University, Astoria, OR
Alan Ismond	AquaTerra, Seattle, WA
Jung Kwon	Oregon State University, Astoria, OR
Tom Libby	Point Adams, Astoria, OR
Amber Little	Pacific Seafoods, Inc, Clackamas, OR
Christina Mireles DeWitt	Oregon State University, Astoria, OR Oregon
Craig Holt	State University, Astoria, OR Oregon State
Sue Hansell	University, Astoria, OR
Jennifer Purcell	Oregon Department of Environmental Quality
Tiffany Yelton-Bram	Oregon Department of Environmental Quality

Additional Contributors to Conference Success

Craig Holt	Oregon State University, Astoria, OR
Sue Hansell	Oregon State University, Astoria, OR
Duncan Pasewark	Oregon State University, Astoria, OR

Program Book

Red Building
Astoria, OR April
1-3, 2019



The Loft at The Red Building: Conference presentations (07:00 am -03:00 pm), Breakfast and Lunch will be served at The Loft at the Red Building.

The Holiday Inn Express & Suites: Tradeshow Event (03:00 pm - 05:00 pm; 900 feet from the Conference Location).
A reception occurs on Monday, April 1, 2019 during the Tradeshow Event.

SEAFOOD PROCESSING WASTEWATER & BY-PRODUCT RECOVERY CONFERENCE AGENDA

April 1, 2019	
07:00 am to 8:00 am	**Breakfast, Welcome**
08:00 am to 09:45 am *08:00 am to 08:30 am* *08:30 am to 09:00 am* *09:00 am to 09:30 am* *09:30 am to 09:45 am*	**Session 1: New and Emerging Technologies for Wastewater treatment.** • ***New method for recovering solids without polymers.*** Alan Ismond, Aqua-terra Consultants • ***Suspended solids removal for wastewater applications.*** Kathleen Kelleher, Amiad • ***Recovery of wastewater solids using natural flocculants.*** **Tyre Lanier, North Carolina State University *(by remote connection)*** • ***PANEL DISCUSSION***
09:45 am to 10:00 am	**Break**
10:00 am to 12:00 pm *10:00 am to 10:30 am* *10:30 am to 11:00 am* *11:00 am to 11:30 am* *11:30 am to 12:00 am*	**Session 2: Product and By-product recovery** • ***How to perform a plant audit.*** Alan Ismond, Aqua-terra Consultants • ***By-product recovery with centrifugation.*** David Cifuentes, Flottweg • ***Maximizing product recovery to minimize wastewater pollution.*** Steve Hammer, SLR • ***PANEL DISCUSSION***
12:00 pm to 01:00 pm	**Lunch**
01:00 pm to 02:45 pm *01:00 pm to 01:30 pm* *01:30 pm to 02:00 pm* *02:00 pm to 02:30 pm* *02:30 pm to 02:45 pm*	**Session 3: Obstacles to Product and By-Product Recovery – Physical and Regulatory.** • ***The challenge of by-product recovery without chemicals.*** Alan Ismond, Aqua-terra Consultants • ***Keeping ahead: from concept to sustainable marketing.*** Jim Brackins, Pacific Gro • ***The effect of regulation on by-product recovery.*** Steve Hammer, SLR • ***PANEL DISCUSSION***
02:45 pm to 03:00 pm	**Break - Transfer to Conference Hotel, Holiday Inn Express**
03:00 pm to 05:00 pm *03:00 pm* *04:00 pm*	**Session 4: Trade Show, Mini-Talks and Reception.** • ***Measuring chlorine and ammonia for NPDES 900-J general permits for seafood processing.*** Steve Hoatson and Zach Mandera, Oregon DEQ Lab • ***Instruments and tools for by-product recovery auditing.*** Alan Ismond, Aqua-Terra Consultants
Evening	**Dinner on your own**

April 2, 2019	
08:00 am to 09:00 am	**Breakfast**
09:00 am to 09:45 am	**Session 5: Round Table: Existing Markets for Product and By-Products.** • **West Coast Reduction** **Douglas Davidson** • **BioOregon Protein** **Rocky Caldero - Pacific** BioProducts**, Newport** **Dan Humphries –** BioOregon Protein**, Warrenton** • **Pacific Gro** **Jim Brackins**
09:45 am to 10:00 am	**Break**
10:00 am to 12:00 pm *10:00 am to 10:30 am* *10:30 am to 11:00 am* *11:00 am to 11:30 am* *11:30 am to 12:00 pm*	**Session 6: Emerging Trends in By-Product Recovery.** • ***Adding value to solid and liquid seafood by-products – a Swedish perspective.*** **Ingrid Undeland, University of Chalmers, Göteborg, Sweden (speaker on a remote connection).** • ***Sustainable recovery of biomass from seafood processing water.*** **Bita Forghani Targhi, University of Chalmers, Göteborg, Sweden (speaker on a remote connection).** • ***Discardless: strategies for the gradual elimination of discards in European fisheries 2015-2019 EU project.*** Michael Morrissey, OSU emeritus, Oregon State University • ***PANEL DISCUSSION***
12:00 pm to 01:00 pm	**Lunch**
01:00 pm to 02:45 pm *01:00 pm to 01:30 pm* *01:30 pm to 02:00 pm* *02:00 pm to 02:30 pm* *02:30 pm to 02:45 pm*	Session 7: **Emerging Trends in By-Product Recovery Regional Seafood Lab Program Updates.** • ***Utilization of nano-scale fish bone.*** **Angee Hunt, M.S., Oregon State University** • ***Screening for bioactive compounds in seafood products.*** **Jung Kwon, Oregon State University** • ***Development of value-added marked opportunities for roe and milt.*** **Christina DeWitt, Oregon State University** • ***PANEL DISCUSSION***
02:45 pm to 03:00 pm	**Break – Transfer to Conference Hotel, Holiday Inn Express**
03:00 pm to 05:00 pm	**Session 8: Trade Show, Mini-Talks and Tour.** • ***Plant Auditing Tool Box*** Alan Ismond, Aqua-Terra Consultants • ***Tour of OSU Seafood Lab***
Evening	**Dinner on your Own**

April 3, 2019	
08:00 am to 09:00 am	**Breakfast**
09:00 am to 09:30 am *09:00 am to 09:20 am*	**Session 9: Product and By-Product Recovery–Case Studies**. • ***Federal Regulations and Unintended Consequence.*** Alan Ismond, Aqua-terra Consultants, Washington
09:20 am to 09:30 am	**Break**
09:30 am to 12:00 pm *09:30 am to 10:20 am* *10:20 am to 10:40 am* *10:40 am to 11:10 am* *11:10 am to 11:30 am* *11:30 am to 12:00 pm*	**Session 10: Emerging Trends in Seafood Processing Wastewater Regulations.** • ***Oregon State.*** Tiffany Yelton-Bram, Water Quality Source Control Manager, Oregon Department of Environmental Quality • ***Alaska State – brief updates on permitting issues.*** Clynda Case, Division of Water – Seafood & Aquaculture Wastewater Permitting. Alaska Department of Environmental Conservation **(speaker on a remote connection).** Jackie Ebert, Division of Water – Seafood & Aquaculture Wastewater Permitting. Alaska Department of Environmental Conservation **(speaker on a remote connection).** • ***EPA – NPDES permitting and water quality-based NPDES permit limits and requirements.*** Karen Burgess, NPDES Permit Unit, Region 10 ***EPA – Discharges from vessels in federal waters and EPA's ELG development program and process for updating ELGs.*** Joseph Ziobro, NPDES Permit Unit, Region 10 • ***British Columbia Perspectives.*** Alan Ismond, Aqua-terra Consultants Round Table Discussion
12:00 pm	**Lunch, to go boxes**

PRESENTER BIOGRAPHIES & ABSTRACTS

Christina A. Mireles DeWitt
Director, OSU Seafood Lab

Christina A. Mireles DeWitt currently serves as the Director of the Seafood Research and Education Center in Astoria, OR and as an associate professor in the department of Food Science & Technology. In this capacity, Dr. DeWitt's current research is focused on improving seafood quality, safety and utilization. In addition, she teaches a graduate level Seafood Technology course. She has also served as an affiliate instructor for the FDA/University of Maryland Joint Institute of Food Safety and Nutrition (JIFSAN) since 2014. In this capacity, she has been involved with delivery of international workshops focused on Good Fishing Vessel Practices, Good Aquaculture Practices, and Seafood HACCP.

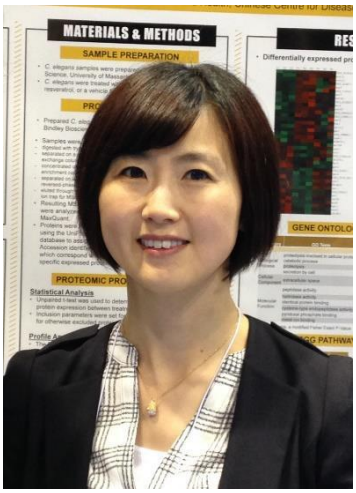
Author email: christina.dewitt@oregonstate.edu

SESSION 1: New and Emerging Technologies for Wastewater Treatment

Christina will facilitate a conversation on emerging technologies and the speaker panel discussion.

NOTES:

Jung Y. Kwon
Assistant Professor, OSU Seafood Lab



Dr. Jung Kwon is an Assistant Professor of Food Science & Technology in Oregon State University (OSU) and a faculty member of the OSU Seafood Research & Education Center. She is also an adjunct faculty in Nutrition Graduate Program at OSU. Dr. Kwon's research is in the area combining food and biomedical science, and focuses on exploring unique and valuable biomedical functions of natural molecules derived from seafood. Her extension work focuses on supporting various seafood sector at Oregon coast and beyond, ranging from fisheries, seafood industry, as well as consumers, through communicating scientific view on nutritional and health impact of seafood consumption.

Author email: jung.kwon@oregonstate.edu

SESSION 2: DESIGNING AND OPERATING PLANTS FOR BETTER COMPLIANCE

Jung will facilitate a conversation with representatives from SLR, Pacific Seafoods and Advisian on solid and liquid waste conveyance, water reuse and instrumentation process control.

NOTES:

Justin Moman, P.E.
Associate Engineer, SLR

Justin Moman is a Civil Engineer at SLR International Corporation in Portland, OR. Mr. Moman has diverse experience working with multiple industries focused primarily on wastewater, stormwater, and contaminated sites since 2011. He has provided engineering support to the seafood processing industry for wastewater and stormwater projects (including Engineering Report preparation) in Oregon and Washington as well as developing SPCC plans, performing detailed engineering calculations, and onsite evaluations.

Author email: jmoman@slrconsulting.com

Session 2: Intensive On Solid Waste Conveyance

This presentation will address common modes of solid waste generation in seafood processing facilities, conveyance methods, and the implications for wastewater associated with each. Options for BMPs and alternatives for solid waste management to improve wastewater quality will be discussed.

NOTES:

Steve Hammer
Engineer, SLR

Steve Hammer is a Chemical Engineer at SLR International Corporation in Portland, OR. Mr. Hammer has diverse experience working with multiple industries focused primarily on wastewater, stormwater, and contaminated sites. He has provided engineering support to the seafood processing industry for wastewater and stormwater projects (including Engineering Report preparation) in Oregon and Washington as well as developing SPCC plans, performing detailed engineering calculations, and onsite evaluations.

Author email: shammer@slrconsulting.com

Session 2: Intensive On Liquid Waste Conveyance

This presentation will address common modes of liquid waste generation in seafood processing facilities, conveyance methods, and the implications for wastewater associated with each. Options for BMPs and alternatives for Liquid waste management to improve wastewater quality will be discussed.

NOTES:

Max Hepburn
Environmental Compliance and Conservation Manager, Pacific Seafood

Max Hepburn currently acts as the Environmental Compliance and Conservation Manager for Pacific Seafood managing the wastewater, stormwater, and air quality compliance with permits in Alaska, Washington, Oregon, California, and British Columbia. In addition, he leads the efforts for conservation of water and energy resources in pursuance of the Pacific Seafood's sustainability goals.

Author email: mhepburn@pacseafood.com

Session 2: Pro's And Con's Of Water Reuse

This presentation will discuss the positive and negatives impacts that water reuse may have on a facility's wastewater permit compliance and cost of operation. Reducing the amount of water discharged per pound processed will ultimately assist in compliance with effluent limitation guidelines (ELGs) and technology based effluent limits (TBELs). In many cases implementation of water reuse will require a significant investment and a large amount of planning. Factors that will be discussed include available technologies, food safety considerations, treatability of waste streams, cost benefit, and public perception among others.

NOTES:

Amir Mirsalehi, P.Eng., C.A.P.
Electrical & Automation Senior Engineer, Advisian

Amir Mirsalehi is a seniors electrical and automation engineer with +25 years of experience in the design, programming and commissioning of electrical, instrumentation and control systems in different industrial (oil and gas, mine and minerals, copper, glass, port and terminals, power generation) and municipal projects (water supply, water and wastewater treatment, and electrical networks) all around the globe. Amir has been involved in a number of small to large-scale control and SCADA projects for different industries. He was involved as the lead electrical, instrumentation and control engineer in design, programming, and commissioning of the waste water treatment plant in Marine Harvest fish processing facility in Port Hardy, BC.

Author email: amir.mirsalehi@advisian.com

Session 2: Introduction To Instrumentation And Process Control

During the recent years, the criteria of the seafood processing plant wastewater discharges have been get more stringent and required various parameters (such as PH, BOD, Turbidity, TSS, UVT, …) been monitored and controlled within safe boundaries. Automation systems can be considered as an effective solution to not only makes sure that all the controlled parameters are going to be within the acceptable margins, but also they can be continuously monitored and proper responses can be made in real time to automatically address the turbulences. Also by using the automation system different level of organization (management, engineering, operation, and maintenance) can get the proper reports and reduce the human errors.

This presentation will discuss about the benefits of using automation and control system in the treatment plant and basis of the instrumentation and control systems. It will explain about different components in Automation systems, such as field instruments, analytical instruments, local control systems, Input / Outputs, Processors, control programming, human-machine interfaces, and networks.

Also some of the new concepts will be discussed in this presentation and explained how the automation system can reduce the overall on-going operational and maintenance costs.

NOTES:

Max Hepburn
Environmental Compliance and Conservation Manager, Pacific Seafood

Max Hepburn currently acts as the Environmental Compliance and Conservation Manager for Pacific Seafood managing the wastewater, stormwater, and air quality compliance with permits in Alaska, Washington, Oregon, California, and British Columbia. In addition, he leads the efforts for conservation of water and energy resources in pursuance of the Pacific Seafood's sustainability goals.

Author email: mhepburn@pacseafood.com

SESSION 3: IT'S THE LAW!

Max will facilitate a conversation on legal implications of compliance and the speaker panel discussion.

NOTES:

Douglas Morrison
Attorney, Miller Nash Graham & Dunn LLP

Author email: douglas.morrison@millernash.com

Douglas Morrison is an environmental attorney with 33 years of experience. Doug recently joined Miller Nash Graham & Dunn after 16 years at his own firm, Environmental Law Northwest. Doug offers comprehensive environmental regulatory, permitting, compliance, and enforcement defense services to clients in Oregon, Washington, and Alaska. He is well known for his expertise in air quality matters. He also routinely handles water quality, solid and hazardous waste, and contaminated property issues, along with business and real estate transactions and environmental management and auditing. Previously, he was partner at Lane Powell, Of Counsel at Bogle & Gates, and Environmental Counsel for a pulp and paper industry trade association.

Session 3: Civil And Criminal Liabilities For Companies And Employees

This presentation will cover the legal liabilities that both companies and employees should consider when dealing with compliance issues.

NOTES:

Laura Kerr
Attorney, Stoel Rives LLP

Environmental attorney Laura Kerr helps clients solve complex challenges arising under federal and state environmental laws. She regularly advises on compliance issues, navigates permitting processes, manages environmental risks in transactions and resolves environmental disputes and enforcement actions.

Laura guides clients through the multitude of regulations governing air and water quality, waste management, chemical spills, land contamination and other environmental liabilities.

Author email: laura.kerr@stoel.com

Session 3: If Something Goes Wrong, Who Do You Need To Tell And When?

This presentation will focus on what you should do in the event your facility finds itself out of compliance with the terms of your Clean Water Act National Pollutant Discharge System Permit.

NOTES:

Suzanne C. Lacampagne
Partner, Miller Nash Graham & Dunn LLP

Suzanne Lacampagne is a partner at Miller Nash Graham & Dunn and a member of the firm's environmental and natural resources practice team. She represents seafood and food processors in state and federal enforcement actions, including Clean Water Act citizen lawsuits and NPDES permitting issues. Suzanne is involved with the current Oregon DEQ NPDES seafood processing permit renewal process. She also represents companies with hazardous waste cleanup action issues and environmental due diligence, and management and compliance.

She is a frequent speaker on effective ways to navigate environmental compliance and regulatory frameworks, and has served on agency advisory committees to shape rule making and policy development.

Previously, Suzanne worked as an environmental litigator with the U.S. Department of Justice in Washington, D.C. where she litigated a wide range of federal civil environmental cases.

Author email: suzanne.lacampagne@millernash.com

Session 3: How To Avoid Third Party Lawsuits

Avoiding third-party lawsuits is critical to companies dealing with NPDES permitting and other compliance issues. This presentation will provide tips and legal strategies for avoiding litigation and dealing with it if it happens.

NOTES:

Aaron Courtney
Attorney, Stoel Rives LLP

Environmental attorney Aaron Courtney helps clients solve complex challenges arising under federal and state environmental laws. He regularly advises on compliance issues, navigates permitting processes, manages environmental risks in transactions and resolves environmental disputes and enforcement actions.

Aaron guides clients through the multitude of regulations governing air and water quality, waste management, chemical spills, land contamination and other environmental liabilities.

Author email: aaron.courtney@stoel.com

Session 3: Responding To DEQ Inspections And Enforcement Actions

This presentation will focus on what you should do in the event your facility finds itself out of compliance with the terms of your Clean Water Act National Pollutant Discharge System Permit.

NOTES:

SESSION 4: TRADESHOW & MINI-TALKS

BOOTHS:

SLR

Aqua-Terra Consultants "Profitable Solutions to Pollution"

DEQ

Oregon State University
Coastal Oregon Marine Experiment Station

MINI-TALKS:

03:00 pm Measuring chlorine and ammonia for NPDES 900-J general permits for seafood processing. Steve Hoatson and Zach Mandera, Oregon DEQ Lab

04:00 pm Instruments and tools for by-product recovery auditing. Alan Ismond, Aqua-Terra Consultants

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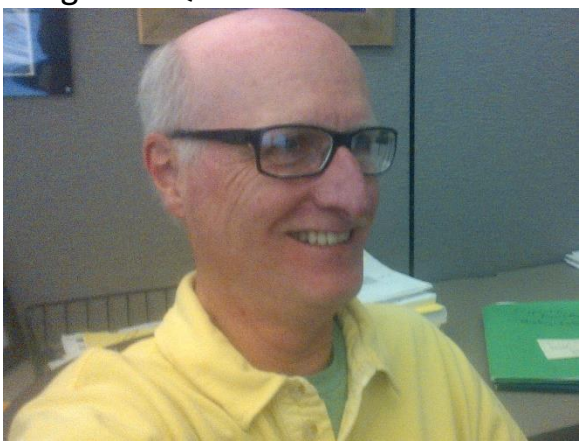
Scott Hoatson
Agency Quality Assurance Officer, Oregon DEQ



Scott Hoatson currently serves as the Agency Quality Assurance Officer for Oregon's Department of Environmental Quality in Hillsboro, OR. In this capacity, Mr. Hoatson works with the State Environmental Laboratory as well many of the agency programs and provides technical and quality assurance support across the agency. Mr. Hoatson also provides QA support to the Oregon Environmental Laboratory Accreditation Program (ORELAP). Mr. Hoatson has been with DEQ for over 9 years and came to DEQ from the private sector, with 30 years in the environmental testing laboratory industry. Most recently as the Western U.S. Quality Assurance Director for a large national laboratory network.

Author email: hoatson.scott@deq.state.or.us

Session 4: Tradeshow Mini-Talk: Recommendations on Measuring Chlorine and Ammonia in NPDES 900-J General Permits for Seafood Processing

Additional ammonia and chlorine testing has been added to the 900-J permits. This presentation will discuss expectations and recommendations on testing and sample handling related to the additional ammonia and chlorine testing.

NOTES:

Angee Hunt
Sr. Faculty Research Assistant-II
OSU Seafood Lab

Angee Hunt is a Senior Faculty Research Assistant at the Seafood Research and Education Center in Astoria, OR. Areas of research emphasis include: value-added fish protein R&D; surimi and surimi seafood; ingredient formulation testing; and texture analysis. She is a member of the Research Chef Association, which promotes collaboration with food science and the culinary arts for product development innovation. In addition, she is the Director of the Better Seafood Processing School-BSPS; co-founded with Dr. Jae Park to serve the QA/QC, R&D, and seafood research needs of the industry. The first BSPS will be May 9-10, 2018.

Author email: angee.hunt@oregonstate.edu

SESSION 5: WASTEWATER TREATMENT 101, PART I

Angee will facilitate conversation on wastewater treatment using screening, dissolved air flotation, and the chemicals used to disinfect wastewater.

NOTES:

Bob McGowan
Industrial Sales Manager
IPEC - A JWC Environmental Brand

Bob McGowan is the National Sales Manager for IPEC Screens, a division of JWC Environmental. With more than 35 years of experience in the application of screens and other liquid/solids separation methods. Bob brings sound expertise to process improvement by careful implementation of screening. With a strong emphasis in the food industry including seafood, slaughter houses, rendering, snack foods, beverage and all types of prepared and prepackaged foods, Bob is highly skilled at determining how screens can fit in to the overall process and can offer a quick return on investment.

Author email: bobm@jwce.com

Session 5: Screens: A Big Bang for Your Buck

This presentation will discuss how the utilization of screens in the waste treatment process can offer payback and benefit to the overall process

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NOTES:

Adriaan van der Beek
President
FRC - A JWC Environmental Brand

Adriaan is a physics Engineer with an MBA and over 30 years of international experience in the industrial wastewater treatment industry with a strong knowledge of process engineering and application driven innovation. His expertise includes conceptual systems engineering, international equipment sales, installation, and start-up of process water and wastewater treatment systems for a broad range of industrial applications.

Author email: adriaanv@jwce.com

Session 5: Floating On Air: The Difference Between Sink And Swim

This presentation will discuss effective operation of a physical-chemical treatment system will significantly reduce the solids and other pollutants in the discharged wastewaters. Physical-chemical treatment offers the greatest conventional pollutant removals such as COD/BOD/TSS/TP). What has not been established yet is the overall particle size distribution AFTER physical chemical treatment. This presentation offers insight in the critical design criteria for DAF separation technology and plan for future work regarding particle distribution analysis.

NOTES:

Alan Ismond, P.Eng.
Partner, Aqua-Terra Consultants

Alan Ismond has a degree in Chemical Engineering and over 40 years of experience in the food and seafood business. He is a founding partner (1993) of Aqua-Terra Consultants. The company provides environmental and process engineering services to the seafood, aquaculture and rendering industries from California to Alaska. Alan's primary focus has been finding innovative ways to convert waste into by-products, increase product recovery, and comply with environmental regulations. Numerous and diverse work projects have spanned a wide range of industry challenges, from plant audits to end of pipe wastewater treatment system design and everything in between. He has presented numerous papers internationally and is a contributing author for several books.

Alan Ismond E-mail: alan@aqua-terraconsultants.com

Session 5: Intensive On DAF Chemicals

This presentation will discuss chemicals used for dissolved air flotation.

NOTES:

ERNEST R. BLATCHLEY III,
PH.D., P.E., S.E.
Professor, Purdue University

Author email: blatch@ecn.purdue.edu

Dr. Blatchley is a professor within the Division of Environmental & Ecological Engineering at Purdue University. Professor Blatchley teaches and conducts research in the area of physico/chemical processes of Environmental Engineering, with particular emphasis on photochemical reactors and photochemical reactor theory. He has been instrumental in developing important concepts and tools that are now commonly used in the analysis and design of photochemical reactor systems, and holds US patents on methods of reactor design and measurement.

Professor Blatchley earned a B.S. in Civil Engineering from Purdue University, M.S. and Ph.D. degrees in Civil (Environmental) Engineering. He was recently named a BCEE by the American Academy of Environmental Engineers. He is a member of AAEE, ACS, IUVA, IWA, and WEF.

Session 5: Fundamentals Of Wastewater Disinfection

Disinfection is generally the final treatment step before wastewater is discharged to the receiving water body. Disinfection is designed to reduce the number of viable human or fish pathogens to regulated levels, in order to safeguard the health of humans or fish in the receiving body. This talk will describe the most relevant technologies for disinfecting wastewater from seafood processing, describing modes of action, advantages, and disadvantages of each.

NOTES:

Alan Ismond, P.Eng.
Partner, Aqua-Terra Consultants

Alan Ismond has a degree in Chemical Engineering and over 40 years of experience in the food and seafood business. He is a founding partner (1993) of Aqua-Terra Consultants. The company provides environmental and process engineering services to the seafood, aquaculture and rendering industries from California to Alaska. Alan's primary focus has been finding innovative ways to convert waste into by-products, increase product recovery, and comply with environmental regulations. Numerous and diverse work projects have spanned a wide range of industry challenges, from plant audits to end of pipe wastewater treatment system design and everything in between. He has presented numerous papers internationally and is a contributing author for several books.

Alan Ismond E-mail: alan@aqua-terraconsultants.com

SESSION 6: WASTEWATER TREATMENT 101, PART II

Alan will facilitate a conversation with representatives from Ellis, Clear Cove Systems and SLR regarding wastewater treatment for seafood processing facilities.

NOTES:

Mike Sargent
Sales Director, Ellis Wastewater

Mike Sargent currently serves as the Sales Director for Ellis Wastewater. Ellis manufactures equipment for the wastewater industry with a focus on dissolved air flotation, chemical reaction tanks, oil water separators, inclined plate clarifiers and emulsion breaking systems.

Author email: msartgent@elliscorp.com

Session 6: Intensive On Belt Presses

This presentation will cover how belt presses can be used to recover solids from wastewater.

NOTES:

Mike Sargent
Sales Director, Ellis Wastewater

Mike Sargent currently serves as the Sales Director for Ellis Wastewater. Ellis manufactures equipment for the wastewater industry with a focus on dissolved air flotation, chemical reaction tanks, oil water separators, inclined plate clarifiers and emulsion breaking systems.

Author email: msartgent@elliscorp.com

Session 6: Intensive On Centrifugations

This presentation will cover how centrifuges can be used to recover solids from wastewater.

NOTES:

Alex Wright
Technology Solutions Manager,
ClearCove

Alex Wright is the Technology Solutions Manager for a number of ClearCove's market segments including dairy processing, municipal, seafood and agriculture. Alex has been extensively involved in the piloting and R&D of the ClearCove technology since its inception. Alex was the project manager for ClearCove's NYSERDA-supported demonstration projects and is a regular speaker at local, state and national conferences on wastewater as a resource. He graduated from Northeastern University in 2012 with a degree in Economics.

Author email: awright@clearcovesystems.com

Session 6: Benefits Of Settling

This presentation will discuss chemical enhanced settling for organics and solids removal from seafood processing wastewater. Currently, Dissolved Air Flotation (DAF) or screening are most commonly considered for the primary treatment of seafood wastewater. Chemically Enhanced Settling provides an alternative that requires less energy, chemical, and O&M than the aforementioned conventional treatment systems while providing superior scalability and flexibility. This presentation will review the results of bench-scale testing performed on fish and shrimp processing wastewater from a facility in the Pacific Northwest and potential for full-scale implementation.

NOTES:

Christina Brow
Associate Engineer, SLR

Christina Brow works at SLR International Corporation in Portland, OR. Dr. Brow has diverse experience working with multiple industries focused primarily on water quality modeling, and contaminated sites. She has provided engineering support to the seafood processing industry for wastewater and stormwater projects and has completed Mixing Zone Studies and assisted with outfall design for clients in Oregon, Washington, British Columbia, and Saskatchewan.

Author email: cbrow@slrconsulting.com

Session 6: Why Your Outfall Matters

This presentation will discuss basic elements of outfall design and their effect on mixing in the receiving environment.

NOTES:

Ioannis Boziaris
Professor, University of Thessaly

Ioannis S. Boziaris is Associate Professor and Head of the Laboratory of Marketing and Technology of Aquatic Products and Foods of the Department of Ichthyology and Aquatic Environment of University of Thessaly, Greece.

He teaches Seafood Processing, Quality and Safety in both undergraduate and postgraduate levels and his research is focused on seafood microbiology, spoilage, safety and preservation technologies. Ioannis S. Boziaris is also assessor of Hellenic Accreditation System for Food Safety Management Systems Certification Bodies and instructor of Hellenic Food Authority.

Ioannis S. Boziaris currently is Visiting Professor in the OSU Seafood Research and Education Center in Astoria, OR.

Author email: boziaris@uth.gr

SESSION 7: HANDS-ON COMPLIANCE

Ioannis will facilitate a conversation with representatives from SLR Consultants and Aqua-Terra Consultants waste water sampling, testing, and reporting.

NOTES:

Justin Moman, P.E.
Associate Engineer, SLR

Justin Moman is a Civil Engineer at SLR International Corporation in Portland, OR. Mr. Moman has diverse experience working with multiple industries focused primarily on wastewater, stormwater, and contaminated sites since 2011. He has provided engineering support to the seafood processing industry for wastewater and stormwater projects (including Engineering Report preparation) in Oregon and Washington as well as developing SPCC plans, performing detailed engineering calculations, and onsite evaluations.

Author email: jmoman@slrconsulting.com

Session 7: Intensive On Wastewater Sampling

This presentation will address wastewater sampling for the seafood processing industry, why it is important to get it right, and how it can affect your facility. Topics discussed will include sampling fundamentals, best practices for the industry, and what makes seafood processing wastewater unique.

NOTES:

Alan Ismond, P.Eng.
Partner, Aqua-Terra Consultants

Alan Ismond has a degree in Chemical Engineering and over 40 years of experience in the food and seafood business. He is a founding partner (1993) of Aqua-Terra Consultants. The company provides environmental and process engineering services to the seafood, aquaculture and rendering industries from California to Alaska. Alan's primary focus has been finding innovative ways to convert waste into by-products, increase product recovery, and comply with environmental regulations. Numerous and diverse work projects have spanned a wide range of industry challenges, from plant audits to end of pipe wastewater treatment system design and everything in between. He has presented numerous papers internationally and is a contributing author for several books.

Alan Ismond E-mail: alan@aqua-terraconsultants.com

Session 7: Intensive On Onsite Lab Testing (pH/TRC)

The 0900-J now requires the onsite testing for pH and Total Residual Chlorine (TRC). Permittees must use approved testing methods. For pH, meter selection, calibration, maintenance, and validation will be reviewed. For TRC, the State has recommended the lab equipment and procedures. Because of the possible interactions between the test reagents and the wastewater, the modified procedures will be explained as well as calibration, maintenance, and validation requirements.

NOTES:

Abby Ismond
Partner, Aqua-Terra Consultants

Abby Ismond has a Bachelor of Arts degree in Business Administration and over 25 years of experience in the seafood business and 15 years of experience in IT support and training. She is a founding partner (1993) of Aqua-Terra Consultants. The company provides environmental and process engineering services to the seafood, aquaculture and rendering industries from California to Alaska. Abby specializes in creating training and support materials for plant personnel. Her expertise lies in developing simple, easy to use and deploy systems that effectively track compliance and reduce input errors. Abby's communication skills shine when she distills complicated permits into user friendly, process oriented procedures for plant personnel. Thanks to her intimate understanding of environmental regulations and an eye for detail, Abby is an invaluable member of the team when it comes to plant audits and environmental monitoring.

Abby Ismond E-mail: abby@aqua-terraconsultants.com

Session 7: Compliance Reporting And Tracking

Every seafood plant in Oregon must comply with effluent permit limits promulgated by D.E.Q. and EPA. Plants can be in or out of compliance depending on two major factors: 1) how the plant is operated, and, 2) how the plant information is gathered and compiled for the monthly reports. Incorrect measurements or recording of flows, pounds processed and/or pollutant concentrations can adversely impact permit compliance. It is equally important to have some means of data validation. Metrics can be developed based on historical data and the inter-relationship of the various parameters in order to quickly identify outliers or erroneous values. When this is done in a timely manner, data entry errors, and erroneous lab data can be corrected thereby preventing the reporting of unwarranted permit exceedances.

NOTES:

Christina Brow
Associate Engineer, SLR

Christina Brow works at SLR International Corporation in Portland, OR. Dr. Brow has diverse experience working with multiple industries focused primarily on water quality modeling, and contaminated sites. She has provided engineering support to the seafood processing industry for wastewater and stormwater projects and has completed Mixing Zone Studies and assisted with outfall design for clients in Oregon, Washington, British Columbia, and Saskatchewan.

Author email: cbrow@slrconsulting.com

Session 7: Better Compliance Through Computers

This presentation will address how technology can help keep you in compliance.

NOTES:

SESSION 8: TRADESHOW & MINI-TALKS

BOOTHS:

MINI-TALKS

15:00 Pacific Service & Supply Co., Inc (Introduction to pH Control)

15:30 Oregon DEQ (Demonstration of NetDMR)

16:00 Flottweg

16:30 Neo Tech Aqua Solutions, Inc

Tiffany Yelton Bram
Water Quality Manager, Oregon Department of Environmental Quality

Tiffany Yelton Bram is a Water Quality Manager for the Oregon Department of Environmental Quality. In this capacity, Tiffany manages a team of people who research and write wastewater permits that control pollution from sewage treatment plants and industries that discharge to water bodies in Oregon. She also manages staff who conduct inspections and determine compliance with permits. Tiffany is also working with a team at DEQ that is transitioning data collection from permit holders from a paper-based collection system to an electronic data collection system. Tiffany has worked in government agencies in a variety of environmental protection roles for 28 years. She is a graduate of The Evergreen State College in Olympia, Washington.

Author email: yelton-bram.tiffany@deq.state.or.us

Session 8: Tradeshow Mini-Talk

During the Trade Show mini-talks on March 22, Tiffany will show attendees the electronic system that Oregon Department of Environmental Quality is using to collect data from facilities covered by permits. A brief slide show will be followed by an introduction to the web based system.

NOTES:

Jennifer Purcell
North Coast Regional Solutions Coordinator, Oregon Department of Environmental Quality

Jennifer Purcell is a Regional Coordinator with Oregon Department of Environmental Quality (DEQ), Jennifer represents the agency on the north coast, serving Tillamook, Clatsop, and Columbia Counties. Representing DEQ on the Governor's North Coast Regional Solutions Team, Jennifer has the opportunity to work cooperatively with representatives from other state agencies, collaborating with local governments, citizens, and businesses to address projects of regional significance. Regional Solutions Teams focus on solving problems and seizing opportunities for locally identified projects that require the integration of multiple state agencies. This model supports regional economic activities with efficiency and responsiveness, collaboratively addressing community needs. Prior to joining DEQ and the Regional Solutions Team, Jennifer spent 20 years of her career as an independent consultant facilitating marketing and strategic planning projects with public and private sector organizations.

Email: Purcell.Jennifer@deq.state.or.us

SESSION 9: NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) WASTEWATER PERMITTING

Jennifer will facilitate a conversation with representatives from US EPA and Oregon DEQ regarding wastewater permitting for seafood processing facilities.

NOTES:

Karen Burgess
State NPDES Oversight Lead
U.S. EPA Region 10

Karen Burgess works for the U.S. Environmental Protection Agency at the Region 10 office located in Seattle. In her position as State NPDES Oversight Lead, Karen works with NPDES programs and permit writers in Alaska, Oregon, Washington, and Idaho (program approval pending). EPA's oversight role is crucial to maintaining program integrity and ensuring proper implementation of both federal and state laws and regulations. As a chemical engineer, she has worked in chemical processing industry and both state and federal NPDES permitting programs.

Author email: burgess.karen@epa.gov

Session 9: National Pollutant Discharge Elimination Program and Permits

This presentation provides general information about the National Pollutant Discharge Elimination Program and specific information about state programs in EPA Region 10. In accordance with the Clean Water Act, EPA retains oversight authority for state-issued NPDES permits to ensure consistency and enforceability with the Clean Water Act and federal NPDES regulations. Various aspects of EPA's NPDES program and permit oversight role will be presented including review of state-issued permits, state permitting program performance metrics and EPA's Permit Quality Review process. The presentation will include general information about the seafood sector in Region 10, as well as, details about EPA's oversight role in reviewing seafood sector NPDES permits.

NOTES:

Tiffany Yelton Bram
Water Quality Manager, Oregon Department of Environmental Quality

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Author email: yelton-bram.tiffany@deq.state.or.us

Session 9: Overview Of Oregon's Permitting

During Session 9 on March 23, Tiffany will cover the types of permits Oregon Department of Environmental Quality uses for seafood processing facilities. This will include how the permits work, how to apply for a permit and the types of pollutants that the permits control.

NOTES:

Jeff Bachman
Environmental Law Specialist, Oregon Department of Environmental Quality

Jeff Bachman is an Environmental Law Specialist for the Oregon Department of Environmental Quality.

Author email: yelton-bram.tiffany@deq.state.or.us

Session 9: Overview Of DEQ Compliance And Enforcement

Jeff will discuss fines associated with the Oregon Department of Environmental Quality Compliance and Enforcement.

NOTES:

Tom Libby
Corporate Manager, Special Projects
California Shellfish Co., Inc

CALIFORNIA SHELLFISH CO.

Tom Libby is currently Corporate Manager, Special Projects for California Shellfish Co., Inc. Tom is a member of the U.S. Advisory Panel for the U.S./Canada Pacific Whiting Treaty negotiations, and also serves on the Groundfish Advisory Sub-Panel for the Pacific Fisheries Management Council. In Tom's 48 years in Seafood Processing he managed facilities in Kodiak, Alaska and Point Adams Packing Company in Hammond, Oregon. During his early years Tom participated in implementation of EPA regulations in Alaska and EPA/DEQ regulations in Oregon.

Author email: tom.calshell@gmail.com

SESSION 10: PULLING IT ALL TOGETHER

This final session features Alan Ismond presenting information on the following topics:

- Plant Audits: Everything You Need to Know About Your Plant
- Mass Balance: Profitable Solutions to Pollution
- Seafood processing wastewater treatment case study: Marine Harvest Canada

A Speaker Panel Discussion will be conducted after the presentations and:

Conference Closing Remarks will be presented by Christina DeWitt, OSU

NOTES:

Alan Ismond, P.Eng.
Partner, Aqua-Terra Consultants

Alan Ismond has a degree in Chemical Engineering and over 40 years of experience in the food and seafood business. He is a founding partner (1993) of Aqua-Terra Consultants. The company provides environmental and process engineering services to the seafood, aquaculture and rendering industries from California to Alaska. Alan's primary focus has been finding innovative ways to convert waste into by-products, increase product recovery, and comply with environmental regulations. Numerous and diverse work projects have spanned a wide range of industry challenges, from plant audits to end of pipe wastewater treatment system design and everything in between. He has presented numerous papers internationally and is a contributing author for several books.

Alan Ismond E-mail: alan@aqua-terraconsultants.com

Session 10: Plant Audits: Everything You Need To Know About Your Plant

After you have designed and built your facility and your wastewater treatment system, you need to implement procedures for tracking performance. This should include monitoring water use, resource recovery, and environmental compliance. There are simple and inexpensive techniques for monitoring these metrics not only overall but also at key points along the process. Problem areas can be identified, rectified and audited again to determine progress. Audits should be done at least annually, and after major modifications to the plant. They should also be done seasonally to account for differences in plant operation. And finally, an audit is in order if the plant is out of compliance with the wastewater permit requirements.

NOTES:

Alan Ismond, P.Eng.
Partner, Aqua-Terra Consultants

Alan Ismond has a degree in Chemical Engineering and over 40 years of experience in the food and seafood business. He is a founding partner (1993) of Aqua-Terra Consultants. The company provides environmental and process engineering services to the seafood, aquaculture and rendering industries from California to Alaska. Alan's primary focus has been finding innovative ways to convert waste into by-products, increase product recovery, and comply with environmental regulations. Numerous and diverse work projects have spanned a wide range of industry challenges, from plant audits to end of pipe wastewater treatment system design and everything in between. He has presented numerous papers internationally and is a contributing author for several books.

Alan Ismond E-mail: alan@aqua-terraconsultants.com

Session 10: Mass Balance: Profitable Solutions To Pollution

Every business that is successful and profitable tracks money flow throughout the company. In the case of a seafood processing plant, profitability is primarily tied to resource recovery. A mass balance is a method for measuring and tracking seafood resource. Most companies track the weight of seafood resource into the plant and the weight of finished product recovered to get an overall estimate of recovery. The real money is in also tracking the amount of seafood resource that goes to by-product recovery or disposal, and to the wastewater being discharged. A mass balance is generally calculated over a 24 hour period but can also be calculate over longer time periods for greater accuracy.

NOTES:

Alan Ismond, P.Eng.
Partner, Aqua-Terra Consultants

Alan Ismond has a degree in Chemical Engineering and over 40 years of experience in the food and seafood business. He is a founding partner (1993) of Aqua-Terra Consultants. The company provides environmental and process engineering services to the seafood, aquaculture and rendering industries from California to Alaska. Alan's primary focus has been finding innovative ways to convert waste into by-products, increase product recovery, and comply with environmental regulations. Numerous and diverse work projects have spanned a wide range of industry challenges, from plant audits to end of pipe wastewater treatment system design and everything in between. He has presented numerous papers internationally and is a contributing author for several books.

Alan Ismond E-mail: alan@aqua-terraconsultants.com

Session 10: Seafood Processing Wastewater Treatment Case Study: Marine Harvest Canada

Marine Harvest Canada operates a farmed salmon processing and effluent treatment plant in Port Hardy, British Columbia. The multimillion dollar state of the art effluent treatment plant was built in 2011 and additional capital investments and refinements have been made in the last 7 years. The plant is computer controlled and is designed to run at 35 m3/hr. A significant portion of the unrecovered resource in the effluent is removed, and disinfection is accomplished using ultraviolet light. While the system has met or exceeded expectations, the capital and operating costs are substantial.

NOTES:

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