Upcoming Events

Aquaculture America 2021: Aug. 11-14, 2021. San Antonio, TX. For more information: www.was.org


Aquaculture Canada/WAS North America 2021: POSTPONED. Watch for new dates. St. John’s, Newfoundland, Canada. For more information: www.was.org


Aquaculture Europe 2021: Oct. 5-8, 2021. Funchal, Madeira, Portugal. For more information: www.aquaeas.org


Well, the first (and hopefully only) virtual meeting of the NSA is now history. I would like to thank everyone who contributed to the success of this unique event. Our office and meeting staff, by dint of a heroic effort, managed to overcome all obstacles and allow all of us to participate in our 113th annual meeting. The plenary speakers and all who contributed a paper or poster were instrumental in accomplishing the primary mission of the meeting – exchange of information among the members of the NSA. One of the things that I find most appealing about the NSA is the breadth of interests of our members. This society is the primary platform for all aspects of the biology and aquaculture of anything that is not a fish. I always learn quite a bit from the meeting. The missing element of this meeting was seeing everyone in person and being able to network, gossip, and catch up with how we have all managed to cope with the pandemic. I urge all of you to make up for the loss of the personal touch this year, and last year, by making plans to attend the Triennial joint meeting with the World Aquaculture Society in San Diego, California in 2022. Think about organizing a session in your area of expertise, the more representation we have at the meeting, the better.

I am honored to have been elected to serve as President of the NSA. The Executive Committee is slowly bringing the NSA into the current century by establishing a presence on social media with an eye toward increasing public awareness of the Association. We are wrestling with how to establish mechanisms to balance entertainment value and science on these platforms, and we welcome ideas, suggestions, and participation. I also intend to continue to have some event at the annual meeting that will highlight the commitment of our members to increasing awareness of issues of inclusion, diversity, and social justice.

Those of you who joined us in New Orleans for the 112th annual meeting may recall that the Mississippi River was running high during the meeting. During the spring and summer of that year a lot of that water was released into oyster habitat is particularly touchy in the Bayou State since the only way to stabilize the rapidly eroding coastline is to divert sediment-rich water from the Mississippi River into brackish marshes. The increasing frequency of rain events and hurricanes of unusual intensity due to climate change are other factors. It is these sorts of issues that our membership can address, and where the NSA can have considerable impact on our future. The NSA is your professional association and I hope that each and every one of you will continue as members. Get vaccinated and laissez les bon temps rouler.

Lewis Deaton, President
2020 Michael Castagna
Student Research
Grant Update

Awardee: Emily Cooksey
University of Arizona

"Prevalence and human health risk associated with Vibrio spp. in Pacific oysters"

Vibriosis infections resulting from the consumption of contaminated seafood cause approximately 80,000 illnesses, 500 hospitalizations, and 100 deaths in the United States each year, at a cost of $30M in medical expenses and lost productivity. As vibriosis infections are increasing, it is imperative to understand the human health risk associated with consumption of Vibrio spp. The prevalence of V. vulnificus and V. parahaemolyticus in Pacific oysters was measured and evaluated, and a quantitative microbial risk assessment (QMRA) model was developed to assess the human health risks from consumption of oysters.

During the summer of 2019, in collaboration with Southern California Coastal Water Research Project (SCCWRP), 1000 Pacific oysters were collected from Newport Bay, depurated, and transplanted back into Newport Bay at 12 sites. During a six-week period at four time points, a subset of oysters and a water sample were taken at each site to evaluate the prevalence of V. parahaemolyticus and V. vulnificus. Total and pathogenic V. parahaemolyticus and V. vulnificus were assessed with a culture-based enumeration method followed by confirmation PCR. Spearman rank correlation coefficient tests were used to evaluate the relationships of V. parahaemolyticus and V. vulnificus in the oysters and water samples with temperature, salinity, and chlorophyll-a.

There were higher concentrations of both V. parahaemolyticus and V. vulnificus in the surrounding water compared to the oysters. Additionally, there was a large variability of concentrations of V. parahaemolyticus and V. vulnificus throughout Newport Bay. There was no pathogenic V. parahaemolyticus detected, and a low detection frequency of pathogenic V. vulnificus in the oysters. Pathogenic V. parahaemolyticus (trh+) and V. vulnificus (gllf+) was frequently detected in water samples. There was no correlation between levels of V. parahaemolyticus in the oysters and environmental co-variates. There were correlations between the concentration of V. vulnificus in the surrounding water and V. parahaemolyticus present in the oysters and water with water temperature, salinity, and chlorophyll-a.

Following the field study, a quantitative microbial risk assessment (QMRA) framework was used to understand risk associated with consumption of V. parahaemolyticus in raw oysters and to assist in identifying key places for public health interventions. The QMRA model that has been developed used concentrations of V. parahaemolyticus found in recreationally harvested oysters in Newport Bay in conjunction with input parameters from the supply chain and consumption behavior from the literature. Input parameters from the supply chain included time and temperature of oyster shipments from the Pacific Northwest. Consumption behavior assessed number and size of oysters consumed. The input parameters allowed for illness risk to be calculated.

Results from this regional study demonstrated the median risk to be 10 illnesses for every 1 million serving of oysters (95% confidence interval 5.33 x 10^-7 to 2.12 x 10^-7). A sensitivity analysis highlighted key locations for public health interventions to reduce V. parahaemolyticus risk. The initial concentration of total V. parahaemolyticus in the oysters, percent of pathogenic V. parahaemolyticus, and the number of oysters consumed were critical factors in driving risk. Mitigation strategies during harvest may help reduce V. parahaemolyticus illness risk from consumption of raw oysters.

This project was designed to understand the prevalence, exposure, and human health risk associated with Vibrio spp. in oysters grown in southern California. The prevalence of V. vulnificus and V. parahaemolyticus in Pacific oysters was measured and evaluated, and a quantitative microbial risk assessment (QMRA) model was developed to assess the human health risks from consumption of oysters.

Offices, Committee Chairs & Staff of the National Shellfisheries Association

EXCOM Members

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<thead>
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<td>University of Louisiana - Lafayette</td>
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This page contains information about the prevalence and human health risk associated with Vibrio spp. in Pacific oysters, as well as the results of a study conducted by Michael Castagna during the summer of 2019. The study measured the prevalence of V. vulnificus and V. parahaemolyticus in oysters from Newport Bay, CA, and assessed the risk to human health from consuming these oysters. The project was designed to understand the prevalence, exposure, and human health risk associated with Vibrio spp. in oysters grown in southern California. The prevalence of V. vulnificus and V. parahaemolyticus in Pacific oysters was measured and evaluated, and a quantitative microbial risk assessment (QMRA) model was developed to assess the human health risks from consumption of oysters.

This page is part of the 2020 NSA Quarterly Newsletter, which is a publication of the National Shellfisheries Association (NSA). The NSA is a membership organization dedicated to the advancement of shellfisheries science and management. The newsletter includes updates from officers, committee chairs, and staff members of the NSA, as well as contact information for various individuals associated with the organization. The newsletter is a valuable resource for anyone interested in shellfisheries science and management, providing insights into the latest research and developments in the field.
Worsening climate indicators in 2020 are a sobering wake up call. Temperature and atmospheric methane records hit all-time highs despite a reduction in anthropogenic CO2 emissions facilitated by the pandemic. The trends are consistent with additional locked-in warming, the cooling effects of short-lived anthropogenic aerosol pollution, and warming-induced natural methane sources. In short, immediately ending all fossil fuel emissions appears no longer enough and may instead cause rapid, further warming. Cooling the planet while mitigating emissions are urgent needs. Excited by the challenge of an apparent paradox, Rowell Fellow Tao developed Mirrors for Earth’s Energy Rebalancing (MEER:ReflEction) as a comprehensive engineering framework to reconcile these apparently conflicting tasks. Six volunteer scientists and engineers formed the Ocean Deacidification team at MEER:ReflEction to find that collaborating and bolstering marine bivalves with solar technologies will likely offer us the best shot for efficient carbon capture.

The central challenge of climate change is its immense scale. Oceans, covering 70% of our planet's surface, have borne the brunt of impacts, absorbing most excess heat and CO2 via a massive surface area and volume. The team realized that the same surface area has enabled the ocean to perform, for free, the most material and energy intensive tasks. Six volunteer scientists and engineers formed the Ocean Deacidification team at MEER:ReflEction to find that a reduction in ocean pH this century will exacerbate impacts, absorbing most excess heat and CO2 via a massive surface area and volume.

Prospects for superior efficiency and scalability led the Ocean Deacidification team to expand to include polymath K. Donnellan of Dublin, Ireland and engineers extraordinaire H.T. Le and M. Hathi of Cambridge, MA. In a first step, Donnellan is analyzing the physical and phytoplankton primary production carrying capacities for scaling marine bivalve mariculture in pelagic environments towards fulfilling the needs of a global carbon-neutral, circular energy system. This task relies on data collected by the Moderate Resolution Imaging Spectroradiometer (MODIS) on the NASA Aqua satellite (Figure 1). Vast expanses of coastal oceans seem suitable for bivalve mariculture, while respiratory and social carrying capacities of coastal fishing and aquaculture growth stimulation, and bloom control ecosystem service in areas with high chlorophyll concentration. At least 2 million km² display chlorophyll-a concentration greater than 3 mg m⁻³ sustained for at least 6 consecutive months between 2019-2020 (Figure 2). Globally, half of this area, the size of Egypt, is in territorial waters 22 kilometers from shore and lose to human settlement (Figure 2). Implementing oysters and scallop mariculture in these areas would fix 100 Megatons carbon yr⁻¹ in shell for typical fixing rates between 80-120 g m⁻² yr⁻¹.Transportation of this carbon is free when incorporating the meat into people’s diet to replace calories from animal agriculture, leading to additional GHG mitigation. Le and Hathi are prototyping solar furnaces to calcinate bivalve shells and to measure the kinetics of the hydration heat release from the resulting CaO. They estimate that the solar heat captured and stored in CaO can more than satisfy the global energy needs of coastal fishing and aquaculture communities, offering local energy resilience. Another 100 Megatons yr⁻¹ of carbon emissions is eliminated globally together with savings from reduced land use. A total of 200 Megaton carbon represents 20% of the current anthropogenic emissions and is roughly equal to the annual emissions of the airline industry or the international shipping industry. Expanding bivalve mariculture therefore has the potential to enable sustainable carbon-neutral in sectors that are impossible to electrify.

Brittany Jones, Western Washington University
Kieran Donnellan, freestyle engineer & architect, Dublin, Ireland
Mohan Hathi, Cambridge Rindge & Latin School
Hoa Thanh Le, Harvard University

Wrishija Roy, Emory University
Drew Long, Lampros Institute of Oceanography
Ye Tao, Harvard University

The next annual meeting of the National Shellfisheries Association will be held as part of AQ '22, the Triennial meeting of the AFS (Fish Culture Section), WAS, and NSA, and we look forward to your participation. Plans are underway for another great conference, trade show, and social functions, and most especially, to see all our colleagues in person.

1900 days, or 2 years, 11 months, 22 days -- That’s the time between the last in-person meeting of NSA members (AQ 2019) and the upcoming AQ 2022. It is time to get together and share research findings, have lively discussions, and enjoy happy hours and personal networking. The Town and Country Resort & Convention Center just completed a multi-million dollar renovation which was highlighted in a recent Meetings Today Magazine article.

If you are interested in organizing a session for the conference, contact Sandy Shumway, Steve Allen, or Jay Parsons (see email addresses on back page). Planning has already started and more sessions of specific interest to shellfish folks are still needed.

AQUACULTURE 2022 is a long-overdue opportunity to interact with fellow NSA members and to explore new topics. And don’t forget the trade show -- something for everyone there.

See you in San Diego!

NSA Membership Continues to Increase

The membership drive has been very successful with members recruiting over 160 individuals. The NSA is now up to 647 current members (419 regular, 220 student, and 8 sustaining).


Congratulations to the following who recruited 5 new members and will receive one year of free membership.

Ed Catapano
Christian Alcivar-Marcello
Deneida Espinoza
Nitsara Karouuthaishiri
Jose Riuscos
Lissett Herrera Gonzalez
Suhua Shi
Lauri Urdes
Fernando Aveiga
Lissett Roman-Serrano

Gober Asuncion
Daphne Munroe
Kathy Tung
Roberto Arrondono
Lilibeth Buscol
Brandon Quintana
Tze Chiwor Christie Soo
Iris Hernandez
Jinbai Xiang
Jorge Echevarria-Flores

Consider asking a colleague, student, or anyone interested in shellfish to join. Be sure they credit you for joining so you can forget the trade show – another overdue opportunity to interact with fellow NSA members and to explore new topics. And don’t forget the trade show – something for everyone there.
2021 NSA Student Presentation Awards

The 113th Annual Meeting of NSA had strong student participation from both undergraduates and graduate attendees. In advance of the meeting, the SEn received 32 applications from student members seeking funds to support their meeting registration. The SEn and Conference Management were able to provide registration waivers to 10 students and the FUCOHI Foundation generously sponsored 22 applications.

A total of 24 posters were eligible for the Gunter Award and 74 talks were eligible for the Nelson Award. The SEn is grateful to everyone who contributed their time, energy, and expertise to the judging process. Fifty-one individuals volunteered at registration (although less than half (28) ultimately submitted scores). Following the meeting, judging scores were standardized across different judges, averaged, and ranked to identify outstanding presentations. A limited amount of scoring data as well as an absence of an outstanding poster presentation meant that the Committee elected not to give out the Gunter Award at the 2021 meeting. A concerted effort will be made specifically to recruit poster judges in the future and poster presenters are encouraged to think about how to improve their submissions to elevate them to an outstanding level.

On a more positive note, the Thurlow C. Nelson Outstanding Oral Presentation Award was awarded to two students: Victoria Agnew, University of Maryland Baltimore County, for her presentation on “The effects of temperature on Pacific oyster filtration as a sink and potential adaptation to an emerging pathogen, Labyrinthula zosterae”, and Daniel Chappell, University of South Carolina for his presentation on “Lentic spatial vision in the bay scallop, Argopecten irradians”.

Many congratulations to these awardees who will receive two years of NSA membership as well as a great resume builder marking this achievement.

Congratulations Victoria and Daniel!!!

Peter Kingsley-Smith
Melissa Southworth
Student Endowment Fund Committee

Recruits’ Corner

Fellow Recruits,

It was a pleasure meeting many of you in March at our virtual meeting! It was an exciting and fulfilling week, with fascinating sessions, exciting plenaries, a thought-provoking discussion on DEI in shellfisheries, a student job panel, and fun social events. We are happy to report that 143 students gave either an oral presentation or presented a poster. Twenty-nine student-member pairs also met throughout the conference, creating a great path for networking and building relationships between our student members and professionals established within the field – thanks to all who participated. Thank you to our student volunteers who donated their time to help run poster sessions at the meeting, we could not have done it without you.

Congratulations to Mingling Zhao, Tyler Griffin, Elizabeth Butts, and Sarah Sherrerd, who received the George R. Abbé Student Research Grant, Melbourne R. Carriker Student Research Grant, Michael Castagna Student Research Grant, and the Sandra E. Shumway Award for the outstanding student paper published in the Journal of Shellfish Research, respectively. The awardees’ research will be featured in upcoming social media posts, so be sure to watch the NSA Facebook and Instagram pages for these highlights. The NSA awards three grants to students each year, each of which provides $1,250 towards research. The Abbé Grant supports projects in crustacean biology and fisheries, the Carriker Grant supports a research project in any area of shellfisheries, and the Castagna Grant supports applied shellfisheries projects. Applications for all three grants are due November 4, 2021. All student Recruits are highly encouraged to apply. See the NSA website Student Page for more details as well as the list of awardees:

Save the date for the 2022 Triennial Meeting: February 28, 2022. San Diego, California. This joint meeting with the World Aquaculture Society and Fish Culture Section of the American Fisheries Society is looking to be an exciting one, and we are thrilled to meet you all in person. Stay tuned for more information in the coming months.

We hope you are gearing up for a productive and exciting field season. As always, stay up to date by keeping an eye on the students’ meeting and the faculty meeting pages, the Recruits Facebook group (https://www.facebook.com/groups/4227164584817330292/), and on Instagram (@nationalshellfisheries). Please email Hannah (hannah.i.collins@ucsd.edu) or Alex (armaguedr@virginia.edu) if you have any ideas, concerns, or questions.

Hannah and Alex

NSA Pacific Coast Section News

Greetings from the Pacific Coast! With all the goings-on of the past year, you may have missed out on the 74th Annual Shellfish Conference, jointly held by the National Shellfisheries Association (NSA) and the Pacific Coast Shellfish Growers Association (PCSGA) Oct 6-8, 2020. [Chair’s note: Watch our virtual meeting and hope to what your appetite for the upcoming 75th Annual Shellfish Conference to be held remotely September 20-22, 2021].

Over 200 people registered for the 74th Annual Shellfish Conference. Attendees included more than 48 contributed oral presentations and posters across 12 sessions, as well as three workshops. This was the first virtual meeting of the annual conference, and it required substantial additional planning on the part of the organizing committee. In particular, NSA-PCS would like to acknowledge the herculean efforts of Margaret Pilato and Connie Smith of PCSGA.

NSA-PCS organized the plenary session that focused on COVID-related challenges to shellfisheries and aquaculture, including a keynote by Dr. Jessica Gephart, American University, entitled, “Building the future of food”. We also provided funding to support the participation of 19 students. The 2020 NSA-PCS Heat Student Presentation award went to Tyler Agnew, University of Maryland, for her presentation titled, “The effects of temperature on Pacific oyster filtration as a sink and potential adaptation to an emerging pathogen, Labyrinthula zosterae”. Noel Clark, California Polytechnic State University, received an honorable mention for her poster presentation titled, “Age and growth of the pismo clam (Tivela stultorum) in California”. Natalie Lowell, University of Washington, received the Best Poster award for her presentation on “The mechanism of appendicularia and adaptive differentiation in the purple-hinged rock scallop and its implications for aquaculture”. Support for attending the meeting was generously provided by the Dr. Ken Chew Student Scholarship Fund, Arcadia Point Seafoods, Chuckanut Shellfish, Hama Hama Company, Pacific Shellfish Company, Ocean Institute, Point Rock Oyster Company, Seapa, Swinomish Indian Tribal Community, and The Nature Conservancy of Washington.

Plans are underway for the 75th Annual Shellfish Conference (NSA/PCSA/NSA Pacific Coast Section), and posters and oral presentations are now open and we look forward to your submission. In addition to revisiting our session on race, inclusion, and diversity in shellfish science, we are planning several special sessions and workshops. Sessions may include: Climate Change; Oxygen; Arctic; Pathogens, Shellfish Disease, Harmful Algal Blooms; Human Health Issues; Emerging Species: Beyond Bivalves; Kelp; Seaweed; Restoration and Protection Efforts (Species and Habitat); Estuarine Habitat, Ecosystem Services, Multitrophic Interactions; Genetics, Breeding, Development; Wild Stock Management, Public Engagement, Education and Outreach; Markets; Trade; and Marine Debris, Microplastics. Abstracts on additonal topics will also be considered. We hope to see you all (virtually) in September!

As a reminder, the NSA-PCS Twitter feed and Facebook page are your best resources for news and information about the PC and the 75th Annual Shellfish Conference. Please join our community online.

P. Sean McDonald
Pacific Coast Section Chair
In March 2020, BioOne was making plans to join the NSA at your annual meeting in Baltimore. As a relatively new member of the BioOne team, I was looking forward to meeting NSA members and getting to understand your research and needs a bit better (and true to told, to eating some delectable Maryland shellfish).

Needless to say, cracking crabs in Baltimore was only the start of the long list of things we didn’t do last year. Most of the 100+ societies in the BioOne community cancelled planned annual conferences, seminars, and board meetings. Research projects were impacted, and teaching faculty had to reinvent how they connected with students. The entire research community looked for new ways to collaborate, instruct, and carry on as much critical work as possible. I’m proud to share with you some ways that BioOne continued to serve our publishers, their members, and the broader bioscience community this past year.

Remote Access

BioOne’s platform provides the 600+ members of the NSA with access to the Journal of Shellfish Research, and more than 3,500 institutions around the globe access the full BioOne Complete collection. Last year we worked with our subscribing libraries to establish remote access to that body of content, serving researchers and students who suddenly found themselves working from anywhere but their labs, libraries, and classrooms.

Members of the NSA can access the JSR from anywhere in the world via the NSA site, but if you are at a subscribing institution, you can also get access to the full BioOne collection of 200+ related journals - as well as the JSR archive. Simply visit BioOne Complete via your library’s portal, or affiliate your personal BioOne login with your institution’s access. Email us at helpdesk@bioone.org or follow the instructions at https://bioone.org/help/maintain-your-account.

Financial Sustainability

Conferences typically generate significant society revenue, but in 2020 and 2021 so many organizations like the NSA were forced to cancel such events. In their absence, society publishers found the financial contributions from institutional library subscriptions to be more critical than ever.

BioOne worked tirelessly to ensure strong global renewals of the BioOne Complete collection and saw solid results in 2020 - allowing us to return nearly 60% of the net BioOne Complete subscription revenue to our participating publishers. Since 2007, BioOne has returned more than $630,000 from institutional subscriptions to the NSA. If your library does not subscribe to BioOne Complete, please encourage them to do so.

Not sure if your library or research institution subscribes? See our list of subscribing institutions. If you would like to recommend that your library subscribe to BioOne Complete and provide this full collection of research content to your colleagues and students, fill out this Library Recommendation Form.

Expanding the BioOne Community

In 2021, we are proud to welcome a new marine science title: Aquatic Ecosystem Health & Management is published by Michigan State University Press on behalf of the Aquatic Ecosystem Health and Management Society. Other societies contributing marine sciences content include the Crustacean Society, the Institute of Malacology, the American Fisheries Society, Museums National d’Histoire Naturelle, and the Coastal Education and Research Foundation. BioOne Complete forms a critical mass of high-quality content that is easy for libraries to add to their collections. It thus reaches faculty and students in markets that many individual publishers like the NSA would be unable to penetrate on their own.

By adding relevant high-quality content to the collection, we expand the community and aim to benefit all participating publishers. This broader audience is not only critical for distributing knowledge. It can grow your journal’s readership, your author base, and generate additional article citations. Since joining BioOne in 2007, the JSR has registered more than 1.6 million hits, reaching an ever-widening audience. The JSR impact factor has likewise risen significantly from 0.479 in 2007 to 0.933 today.

See you (hopefully) soon!

While we planned to see you at your 2020 meeting, we look forward to sponsoring and supporting your next in-person conference. It is a pleasure to work on behalf of the NSA community and BioOne staff always welcome your feedback. Stay up to date on BioOne Complete news, content, and resources by following us on Twitter, Facebook, LinkedIn, and YouTube. You can reach me at christine@bioone.org.

(*Editor’s note: it is very important to the NSA and support for the JSR that, if possible, you access BioOne via your library portal)

2021 NSA Student Research Awards

Thank you to the students who applied for research awards this year. These competitive grants provide $1250 in support funding earmarked for student research projects as well as for the Outstanding Student Paper published in the JSR.

The Melbourne R. Carriker Award supports a student research project in any topic of shellfisheries. The 2021 Carriker Award was awarded to Taylor Griffin of the University of Connecticut, for his research on “Functional analysis of the bivalve gut microbiome: experimental perturbations and contributions to detoxification of pesticides”.

The George R. Abbe Award for student research is an award devoted to the area of crustacean biology and fisheries management. Winning this year was Mingli Zhao, University of Maryland Baltimore County, for her proposal, “Assessing the potential for interstate blue crab imports to introduce crab pathogens into new ecosystems”.

The Michael Castagna Award for student research is an award devoted to the area of applied shellfisheries. Winning this year was Elizabeth Bouchard, Rutgers University, for her proposal entitled, “The effect of oyster aquaculture on the distribution of horseshoe crab eggs in Delaware Bay and its implications for the threatened rufa red knot”.

Judging of the Sandra E. Shumway Award for Outstanding Student Paper published in the Journal of Shellfish Research has specific selection and evaluation criteria: (1) The lead author must have been a student when the work was completed, (2) the paper must present the student’s work, not that of a co-author, (3) it will be evaluated on the quality of science and writing, and (4) the importance of the work to the field of shellfish research. A panel of judges evaluated 23 papers, and the award was presented to Elizabeth Underwood for her manuscript, Underwood, E., Darden, T.L., O’Donnell, T.P., and Kingsley-Smith, P.K. 2019. Population genetic structure and diversity of the invasive island apple snail Pomacea maculata (Perry, 1810) in South Carolina and Georgia. Journal of Shellfish Research, 38(1): 163 – 175.

Thank you, again, to all the students for submitting their proposals and for the reviewers for evaluating each these proposals and student papers so thoughtfully.

Application deadline is November 1, 2021.

Start planning now! Details are available at www.shellfish.org.

Stevan Allen
Senior Past-President
As you can well imagine, this has been an adventure like no other and none of it would have been possible without the technical expertise and patience of Eric Heupel and Noreen Favreau. They spent countless hours answering questions, repairing files, setting up the systems, and making sure that every presentation and registration was successful. A huge thanks to our sponsors, many of whom kindly rolled over their sponsorships planned for Baltimore and Charlotte. Sponsor support is an integral part of the success of all of our conferences and especially this one. We also had several trade show participants with videos played during the lunch periods – please take the time to visit their booths and support them where you can. Finally, thank you to all of the participants for their patience during this mutual learning experience.

There were 585 registrants, 383 presentations, 4 plenary speakers, a diverse lecture and discussion, and several live workshops and panels. Those 585 registrants connected from 929 devices and 34 countries. There were 12,368 web page views and consumption of 6 TB of video from 11,500 separate video plays of 285 videos – an average of 21 web page site views per registrant. Desktops were the most frequently used device (87%) with 11% on phones, 62% using Windows, 25% on Macs, 8% on Android Phones, and 8.6% on Linux. This means that either ~300 people were viewing the meeting on two different devices, or, more likely, the meeting link was shared with non-paying registrants. This may seem harmless, but it cost the NSA anywhere between $30-50K in revenue. Discord was very popular – 358 registrants in posting 1858 individual messages (not including announcements or other messages by Admin/moderator).

An anonymous post-meeting survey was sent to all registrants, 333 of whom opened the email and 90 took the time to provide feedback (20 participants, 17 early career, 24 mid-career, 22 senior, 5 retired, and 2 other). Most comments were favorable and summed up by one of our favorite responses, “what a great job under st*yr circumstances”. There were a few general areas of frustration noted including the limited time for Q&A, difficulty with access, and timing of presentations. While it would have been preferable to have Q&A after every talk, that would have extended the meeting for almost two weeks and would have been impossible to implement live with the available staff for the number of concurrent sessions, and not to mention the global time zone differences. Difficulty with access was mentioned more often than individuals not reading the emails they received with detailed instructions on how to do this and waiting until the morning of the first session to open their email (several admitted to this and the web page confirms it). One of the most frequently received email queries during the conference was from people in different time zones asking how they could view the live zoom sessions - this because so many people did not note the time differences.

Other comments included, “communication wasn’t as frequent as I would have liked”, “I don’t think participation was encouraged or promoted as much as it could have been”, and “I feel that the cost should have been reduced or free for the experience”. Comments such as these are disheartening. The conference was advertised on many websites, listservs, in print media, and repeatedly on the NSA email newsletter. An signed and explicit instructions were sent to all registrants on March 19 (Friday) to visit the conference website before the meeting started. Of the 585 registrants, 120 never opened that email. As for free, nobody works for free and conferences - even virtual ones - require time and money. There is a common misconception that ‘virtual’ simply means push a button and it all just happens. There was a website to design, platform system to rent, a company to engage to handle all of the zoom (live) presentations, labor costs to fix the 70% of the videos submitted in an effort to make the presentations, all of the costs associated with program preparation and printing (well over half of the participants requested a printed program), and a separate system to handle the auction and on-line bidding and payments. Nothing is free.

Every effort was made to make the live presentations available to as wide an audience as possible, but given the global time zones involved, not possible to please everyone. Some indicated that ‘it would be nice if the talks were available after the meeting’ – clearly these people didn’t read their emails where it was noted repeatedly that the entire conference would be made available to full registrants for two weeks post meeting. Only 79 registrants took advantage of the opportunity.

There were no standouts among sessions identified as most useful or interesting, many were noted specifically and numerous respondents said ‘all’. Two things emerged as the most important thing people took away for the conference: 1) the importance of networking and 2) the desire for in-person meetings.

There were technical difficulties with the posters and we apologize for that. All posters were part of the meeting materials posted after the conference, but access during the actual sessions was difficult in some cases, and all were made available in the post-meeting postings.

The Auction was a success – over $2500 was raised for the SEP. A big thank you to all of the very generous donors, buyers, and individuals who made cash donations. While this virtual meeting was a great success, it was no substitute for meeting in person, random conversations, and happy hours, leisurely poster viewing, or enthusiastically bidding on auction items. Plans are already underway for the upcoming Triennial (February 28 – March 4, 2022) – SEE YOU IN SAN DIEGO!

**GOOD NEWS…..**

**At long last, there is no longer an added fee for publishing color in the Journal of Shellfish Research**
A huge THANK YOU to Dr. Acacia Alcivar-Warren and the FUCOBI Foundation for their generosity in sponsoring 22 NSA students, and for their continued efforts to provide scientific information to under-developed regions and to increase diversity within the NSA.

Photo credit: Laura Urdes, Murdoch University

THANK YOU TO OUR SPONSORS

NSA Welcomes New Honored Life Member

The National Shellfisheries Association acknowledged the career contributions of Dr. Ximing Guo at the 113th Annual Meeting. A full biography will be published in a future issue of the Journal of Shellfish Research.

“This award is really special to me because the NSA is an organization that I respect immensely. The NSA values diversity, always promoted participation from students, women, and minority groups, and always welcomed international students and scholars. I came to America as a young student over 30 years ago. The inclusive culture at the NSA always made me feel at home. It is heartening for me to receive this award when there is so much racial tension in America.”

“The annual meeting of the NSA is the one conference that I always enjoy attending. Many of the ideas for my research came from this meeting, from listening to talks or from talking with colleagues, students, and farmers. I really appreciate the Association for such great opportunities to meet and connect with so many of colleagues and friends over the past 30+ years. I am grateful for the support from many colleagues, including two dear friends, Susan Ford and Daniel Cohen, who passed on in recent years.”

Congratulations Ximing!
THE 113th ANNUAL MEETING (Virtual)

"There's someone who wants to join us.
Elizabeth, are you there?
"We can't hear you."
"Can you hear us?"