National Shellfisheries Association
Quarterly Newsletter
Est. 1908
2025(4)

President's Message

I'm working on a proposal with several colleagues to try to improve the supply of U.S. seafood. Regulations governing U.S. shellfisheries and aquaculture often deter efficiency and innovation as they prioritize environmental protection and risk avoidance over economic growth and technological advancement. The regulatory framework is fragmented; operators must navigate overlapping federal, state, and local agencies such as NOAA, the EPA, and the Army Corps of Engineers. This complex, time-consuming permitting process discourages investment and experimentation, especially for small producers or innovators introducing new farming systems or species.

Many rules were adopted from wild fisheries management, emphasizing harvest limits rather than enabling sustainable production. As a result, restrictive zoning, production caps, and outdated definitions slow the adoption of modern aquaculture technologies, such as offshore or recirculating systems. Regulatory uncertainty and inconsistency among states further raise costs and reduce competitiveness, leaving the U.S. behind global leaders like Norway and Japan, who employ clear national frameworks support innovation and environmental stewardship together.

Scientific associations can play a critical role in overcoming these barriers. By providing credible, evidence -based research on the environmental and economic performance of new aquaculture methods, they can help regulators make informed, risk-proportionate decisions. Collaborations between scientists, policymakers, and industry can streamline permitting by establishing national standards, best practices, and monitoring frameworks that protect ecosystems while encouraging innovation. Our annual meeting serves as a key venue to discuss new findings, new policies and make connections and collaborations. Hope to see you in Portland, Oregon this spring.

Kevin D.E. Stokesbury, *President*

MEETING DEADLINES

Abstract Submission:
December 15, 2025

Early-bird Registration:
January 16, 2026

Hotel Registration:
February 20, 2026*
**prices will increase after this date*

BOOK YOUR ROOM EARLY - $152 per night
https://www.marriott.com/event-reservations

In this issue:

2024 Michael Castagna Student Research Update

Awardee: Hollis Jones
University of California - Davis

"Air priming as a management tool for transitioning hatchery produced oysters to the intertidal zone"

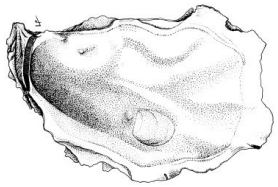
Shifts in temperature and other climate change related stressors will have direct consequences on the future of global food production and security. My research aimed to create a more complete picture of the mechanisms aquaculture species use to adapt to climate change, and how the aquaculture industry can better prepare for the future. In collaboration with the Hog Island Oyster Co. (HIOC) hatchery team in Samoa, California, experiments were conducted in Humboldt Bay (CA) using the Pacific oyster, *Crassostrea gigas*, to investigate industry needs transitioning hatchery produced oysters to the intertidal zone.

Hatchery production has the advantage of increasing predictability of seed production and being able to selectively breed for desirable characteristics but, hatcheries themselves are relatively stable and homogeneous environments. Although oysters are known for their remarkable tolerance to a wide suite of environmental stressors, the transition from primarily subtidal life in the hatchery to the intertidal zone when oysters are ready to be moved to a grow-out farm can present a challenge for oysters that have not developed under predictable air exposure. During low tide, oysters typically undergo a strong reduction in overall metabolic rate known as metabolic depression. When eventually resubmerged, the reoxygenation process begins. Depending on how challenging the low tide was physiologically and biochemically, during reoxygenation intertidal organisms increase metabolic rate to pay back oxygen debt to restore energy stores to return to homeostasis as well as repair any damage that was incurred during low tide. This increased oxygen consumption during reoxygenation can result in oxidative damage to proteins driven by increased reactive oxygen species (ROS) production that exceeds the rate of antioxidant clean up (oxidative stress). In anticipation of oxidative stress upon reimmersion, some intertidal species have been known to upregulate the production of antioxidants during air exposure. This adaptive strategy is known as "preparation for oxidative stress" (POS). Hatchery-produced organisms do not develop with predictable air exposure and do not spend extra energy preparing for, and recovering from, low tide, which means they can use more of that energy for growth but may be disadvantaged for life in the intertidal. This poses the question, "Can we prepare hatchery-produced oysters for this transition from a primarily subtidal to intertidal life so that it is less stressful, and there is a lower risk of mortality or susceptibility to other simultaneous stressors?".

Photo credit: Cassidy Cooper

This study explored the possibility of priming hatchery produced oysters with a preliminary air exposure to reduce energy budget disruption and cellular damage during the transition to the intertidal zone. Stress priming, also called stress hardening or conditioning, can induce short or long-term stress 'memory' that can enhance ability to cope with environmental challenges through an increase in protective cellular defense mechanisms. The success of a priming event is highly dependent on the magnitude (intensity and duration) of the priming stressor and the recovery time between the priming and triggering exposure. If the initial priming exposure is too weak or the organisms have too long to recover it can have a neutral effect; or if the priming exposure is too strong, or there is too little time to recover, it can weaken the individual so that it is still in a weakened state when the subsequent triggering exposure occurs.

One-year-old hatchery-produced *C. gigas* that were ready for transport to a grow-out farm were exposed were exposed to a six-hour air exposure (priming event) on the deck of the FLUPSY. After one, two, or three days of subtidal recovery, both control and primed oysters were subjected to a two-hour low tide. Whole oyster oxygen consumption rate was measured as a proxy for standard metabolic rate (SMR) for individual oysters before and after each two-hour low tide. It was found that primed oysters were able to maintain a stable respiration rate before and after low tide while the control oysters had a significant increase after the low tide. This elevated 'oxygen debt' in control oysters after low tide indicates a heightened metabolic cost of restoring cellular homeostasis. It is believed that the primed individuals had previously upregulated antioxidant defenses during recovery from priming, which reduced the amount of oxidative stress experienced during the low tide. The results of this study suggest that air priming may have a positive influence on the ability of the oyster to transition smoothly to the intertidal zone by reducing the amount of oxygen debt they 'owe' after a low tide. Tissue samples were also taken to measure glycogen content and protein carbonyl content to get a snapshot of energy stores and oxidative damage, but those data have not yet been analyzed (stay tuned!). There is a lot more work to be done in the environmental priming framework and priming holds an exciting potential to improve the performance of hatchery produced organisms in the future.



118th ANNUAL MEETING WORKSHOPS

Regional Shellfish Seed Biosecurity Program (RSSBP) Workshop: West Coast Shellfish Seed Biosecurity Status and Needs

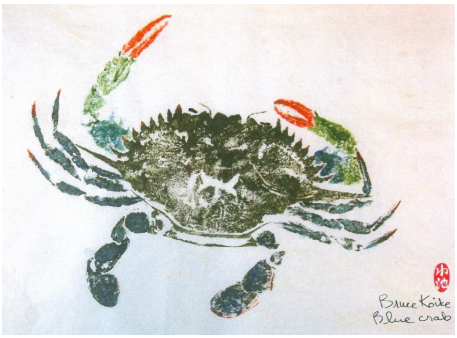
Art & Design of Effective Science Presentations Workshop

Grant Writing Training Workshop by NOAA

NASA Aquaculture Workshop

Gyotaku Workshop (fish print art) by Bruce Koike

Northeast Bivalve Hatchery Health Consortium



Register now for the Annual Meeting at www.shellfish.org and watch your email for updates

SILENT AUCTION

XYLEM ANALYTICS has very generously donated a ProSolo ODO/CT kit for the Student Endowment Fund Auction.

The kit includes the ODO/CT sensor with storage cup, a 15 ft cable, and the handheld display/logger.

You are welcome to submit bids, even if not attending the meeting, up to 5 pm, Tuesday 3/24/26.

Submit bids to Jay Parsons (j.parsons007@gmail.com)

PORTLAND IS JUST AROUND THE CORNER

March will be here before you know it and everything is ready for a grand time in Portland, Oregon, for the 118th Annual Conference, March 22 – 26, 2026 (www.shellfish.org). Come and enjoy the outstanding plenary speakers, participate in the many new sessions and workshops, catch up with old friends, make new ones, learn about the latest research and developments in the shellfish world, and enjoy spring in Portland.

NSA at the MOVIES will be on the agenda again this year. Many new films have been added to the collection and will be shown continuously throughout the conference. A great opportunity to take a break and enjoy a movie – students took advantage last year and held pizza parties in the evening! There's still time to submit a film: Eric@heupel.com

Don't forget your **AUCTION** donations – if you can't make it to the meeting you can send your contributions with a friend or ship to Sandy to arrive before March 1, 2026. It's a great chance to do a little spring cleaning – foist those valuables off on someone else!

REMEMBER TO BOOK YOUR HOTEL early.

EARLY-BIRD REGISTRATION ends JANUARY 16, 2026. Check the web page for cancellation policy.

ABSTRACT DEADLINE: DECEMBER 15, 2025. PLEASE get your abstracts in on time, there is a lot to do after submission, and a lot of juggling to assemble a program before it can be sent to the printer.

The Scallop Gallop will take place under the guidance of The Recruits – remember to bring your wildest socks.

If you have any questions or suggestions, please send them along. We look forward to seeing you all in Portland!

The Conference Management Team

2024 Melbourne R. Carriker Student Research Update

Awardee: Madeline Eppley
Northeastern University

"Revealing 25 years of genomic evolution in the eastern oyster using preserved histology samples"

The eastern oyster (*Crassostrea virginica*) is challenged by multiple micro- and macroparasites, but perhaps most notably by the pervasive parasite Dermo (*Perkinsus marinus*), which causes widespread mortality across the range. My work examines population-level host genomic adaptation to Dermo after an intense multi-year (1999-2003) epizootic in the Chesapeake Bay. To do so, DNA from a collection of historic formalin-fixed, paraffin-embedded (FFPE) samples that were collected before and after the epizootic were used. This approach is novel because FFPE samples are an untapped resource in conservation genomics, offering access to vast collections of archived genetic material that can be used to investigate past evolutionary dynamics. The overarching aim of this project is to expand the utility of pre-existing collections and open new research avenues in conservation genomics and disease ecology.

Photo Credit: Adam Glanzman, Northeastern University

With funding from the Melbourne R. Carriker Grant Award and the Lerner-Gray Grant from the American Museum of Natural History, a month-long research exchange with the Shellfish Pathology Laboratory at the Virginia Institute of Marine Science (VIMS) was conducted, where I collaborated with Dr. Ryan Carnegie. There, I learned histopathology techniques, including FFPE tissue preservation and microtome slicing. In addition, 50 trial DNA extractions were conducted to provide proof-of-concept for the project.

DNA from 90 tissue samples was successfully extracted from oysters from the James and Rappahannock Rivers, collected before and after the epizootic (1997-2007). A customized protocol from the Qiagen Advanced FFPE UNG kit was developed to achieve maximum DNA yield and optimally prepare samples for downstream library prep. Extraction methodology was optimized by testing input amounts of FFPE material (20-, 30-, 60-µm slices), various elution buffers (buffer ATE, Low TE, molecular-grade H_2O), and elution volumes (40, 200, 250 µL). It was found that multiple, thinner slices of FFPE material produced more DNA yield than one thicker slice, so I scaled the input material to two slices of 30 µm thickness for a total input of 60 µm. A clear relationship between DNA yield and elution buffer was not found, but low TE and molecular-grade H_2O were preferred input buffers for downstream library preparation. As a last quality check, samples were run through a TapeStation, which produces a digital gel electrophoresis image and a histogram of DNA fragment sizes. The extractions yielded fragment sizes between 20-700 base pairs (bp), of which fragments between 200-600 bp were size-selected during library preparation. Then, 16 samples were sequenced to 10× coverage using 150bp paired-end Illumina NovaSeq S4 at the Harvard Bauer Core Facility. Nuclear sample coverage (1.04-12.6%) varied but sequencing did achieve higher (8-99%) mitochondrial DNA coverage.

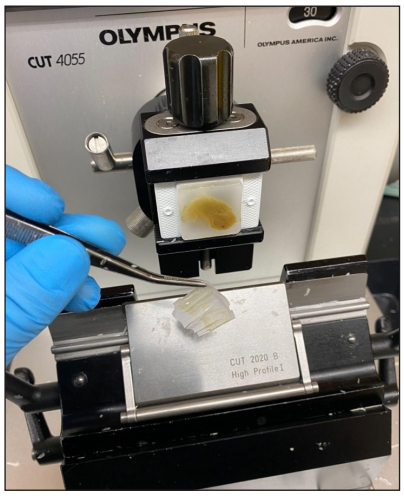


Photo credit: M. Eppley

Demultiplexed sample quality was examined using MultiQC and then adapters were removed with AdapterRemoval. Then, reads to the eastern oyster reference genome were mapped with bowtie2 and DNA damage assessed with MapDamage. Preliminary examination of the genomic data detected some signatures of DNA damage despite lab treatment of extracted DNA with uracil-DNA glycosylase (UNG), which was applied to correct for cytosine deamination caused by formalin preservation. Lastly, angsd and bcftools were used to call and filter SNP for downstream analysis.

In future efforts, I will resolve sequence quality issues related to preservation damage using bioinformatics tools, calculate effective population size, and identify outlier loci in pre- and post-epizootic populations. Outlier loci will then be mapped to their genetic locus using the eastern oyster reference genome, and gene ontology analysis will reveal putative function. These analyses will help assess population-level genomic change resulting from the epizootic and reveal patterns of selection.

This research also connects to my other dissertation chapters, in which I am investigating population structure and genomic adaptation to abiotic and biotic clines across the range of the eastern oyster. So far, strong shared signals of adaptation to high temperature stress and parasite mitigation have been detected by identifying loci with statistical associations to these variables across the range. I will extend my findings by looking at the genotypes of the historic sequences at these loci to detect changes in genotype over time.

I am grateful to the National Shellfisheries Association for the funding that enabled my methodological advances in working with FFPE-preserved samples and facilitated my productive research exchange at VIMS. Thank you also to Dr. Ryan Carnegie and histotechnologist, Melanie Kolacy, for their generously sharing samples and for invaluable guidance while developing this project.

*European Flat Oysters (*Ostrea edulis*) in Southern New England*

European flat oyster found in Stonington, Connecticut. Photo credit: Jim Carlton

One of Europe's best known shellfish, the edible European flat oyster, *Ostrea edulis* (the huîtres plates or Belons of France), was intentionally and successfully introduced to Maine more than 80 years ago by the famous shellfish biologist Victor Loosanoff in the early 1950s in the era when marine finfish and shellfish were still being moved around the world in an attempt to create new fisheries. It has since become common from Nova Scotia to northern Massachusetts. In the last few years, however, *Ostrea edulis* appears to be more common in southern Massachusetts, on the western and southern shores of Cape Cod, including in Buzzards Bay and in bays in the Waquoit and Chatham areas of the Cape.

On November 2, 2025, a large, living *Ostrea edulis* was discovered in Stonington Harbor in Connecticut, marking the first verified record of a live European flat oyster in Long Island Sound. It measured about 5 inches in diameter and is estimated to be 4 to 5 years old. One sure sign that it is not a native oyster is a tiny row of bumps on the inside of the shell near the hinge. More than 20 years ago there were two unverified sightings in Connecticut waters, but neither was confirmed, and no photos exist of them.

This find raises significant research questions, such as how many are there, where are they, and will this species compete with native oysters? How it arrived in Stonington Harbor is also a mystery. It may have been attached to a boat during its early life stages and fallen off in the harbor, a well-intentioned person may have brought it here, or ocean currents may have spread the oysters in their larval stage. We are not encouraging anyone to move or transport any nonnative species because transplanting oysters without a permit is illegal.

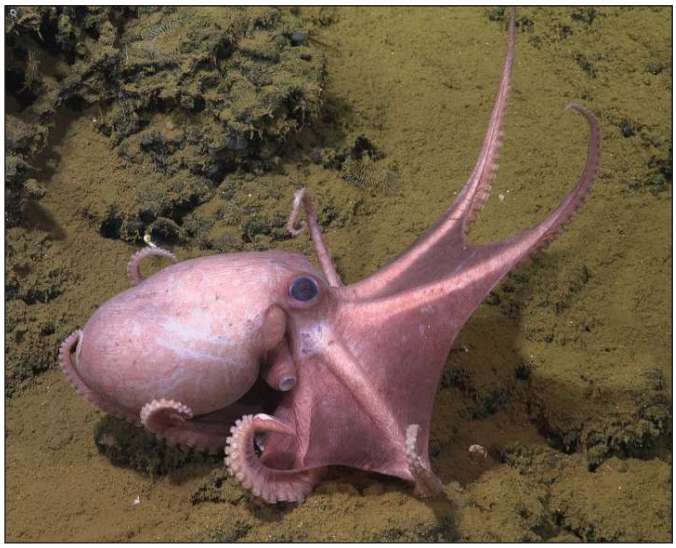
Be on the lookout for posters, media alerts, and iNaturalist (an online social network of people sharing biodiversity information) postings (https://www.inaturalist.org/projects/european-flat-oyster-in-connecticut) that are being deployed to engage the public in order to determine the extent of nascent populations of *O. edulis* in southern New England. The hope is by getting the word out about the oysters, people who did not realize the species was unusual will start reaching out with sightings, giving researchers an insight into changes in the marine environment.

Krystal Rose, Mystic Seaport Museum
Jim Carlton, Professor Emeritus, Williams Mystic

Loosanoff, V. (1955). The European oyster in American waters. Science*, 121(3135): 119-121. doi/10.1126/science.121.3135.119*

2025 Mollusc of the Year - A Deep-sea Octopus

The deep-sea octopus, *Muusoctopus,* won the title of "International Mollusc of the Year 2025" edging out the blue dragon sea slug (*Glaucus atlanticus*), the Atlantic carrier snail (*Xenophora conchyliophora*), the Hawaiian black-footed limpet (*Cellana exarata*), and the ocean quahog (*Arctica islandica*). The genus *Muusoctopus* includes octopuses that live in the icy depths of the oceans. One way they differ from their shallow-water relatives is their lack of an ink bladder – an adaptation to the darkness of the deep sea where few predators lurk.



Muusoctopus *species. (Photo credit: Schmidt Ocean Institute)*

The deep-sea octopus was nominated by marine biologist Fiorella Vásquez-Fallas (University of Costa Rica). It was only recently discovered that a *Muusoctopus* species, also known as the 'Dorado octopus,' forms huge colonies at a depth of around 3,000 m off the coast of Costa Rica. The females of this species appear to incubate their eggs exclusively in the warm waters of hydrothermal vents – an extraordinary behavior that is revolutionizing the understanding of deep-sea ecology, reproduction, and evolution.

The International Mollusc of the Year competition was started in 2020 by the Senckenberg Society for Nature Research, the LOEWE Centre for Translational Biodiversity Genomics and the International Society for Mollusc Research to raise awareness and protect the rich diversity of molluscs around the world. Anyone can nominate their favorite species, from any geographic area. Species from marine, land, and freshwater environments are eligible.

Although molluscs are the second largest animal phylum after arthropods, relatively few mollusc species have been fully sequenced. Because of its victory, *Muusoctopus* will have its genome sequenced by the LOEWE CTBG. "This will allow us to gain insights into the genetic basis for their extraordinary way of life and adaptation to thriving in the deep sea," reports Dr. Carola Greve from the Senckenberg Research Institute and Natural History Museum Frankfurt.

In March, researchers from Senckenberg and Unitas Malacologica will select five finalist species for the 2026 Mollusc of the Year.

SUBMIT YOUR ABSTRACTS NOW

Deadline: December 15, 2025

The following is a list of sessions planned for the 118th Annual Meeting. If you want further information on any of the sessions listed, contact the organizer(s) directly.

Session	Organizers	Contact information
Abalone	Kendall Smith	Kendall.r.smith@odfw.oregon.gov
Acidification	George Waldbusser	George.waldbusser@oregonstate.edu
Algal Toxins/HAB	Steve Morton	Steve.morton@noaa.gov
Birds and Shellfish Sanitation	Bob Rheault	bob@ecsga.org
Carbon/Shellfish	Max Zavell	mzavell@umassd.edu
Clams	Brian Beal, John Kraeuter	Bbeal@maine.edu; kraeuter@hsrl.rutgers.edu
Commercial Fisheries	Dave Rudders, Kevin Stokesbury	rudders@vims.edu; kstokesbury@umassd.edu
Contaminants of Emerging Concern	Evan Ward, Anne Gilewski	Evan.ward@uconn.edu;
Decapods		Under construction
Disease	Marta Gomez-Chiarri, Tal Ben-Horin, Steph Smith	gomezchi@uri.edu; tbenhor@ncsu.edu; steph.smith@unc.edu
Down on the Farm	Leslie Sturmer, Bill Walton	Lnst@ufl.edu; walton@vims.edu
Echinoderms	Andy Suhrbier	suhrbier@pacshell.org
eDNA	Ryan Guillemette, Jill Tupitza	ryang@sccwrp.org; jillt@sccwrp.org
Gastropods	Max Zavell, Dianna Padilla	mzavell@umassd.edu;
Genomics	Louis Plough	lplough@umces.edu
Good & Bad Microbes	Steph Smith	steph.smith@unc.edu
Green Crabs	Brian Beal, Sylvia Yamada	bbeal@maine.edu; Sylvia.yamada@oregonstate.edu
Hatcheries	Vengatesen Thiyagarajan, Karen Hudson	rajan@hku.hk; khudson@vims.edu
Macroalgae-Shellfish Co-Culture	Mike Doall	Michael.doall@stonybrook.edu
Mangrove Shellfish	Acacia Alcivar-Warren, Caroline DeWitt	Acacia.warren.rcs@gmail.com
Mussels		Under construction
Offshore Aquaculture		Under construction
ONE HEALTH Epigenomes &	Acacia Alcivar-Warren	Acacia.warren.rcs@gmail.com
OsHV1	College Burge, Don Webster	caburge@ucdavis.edu; dwebster@umd.edu
Outreach	Katie Houle	katie@pacshell.org
Oysters	Bill Fisher, Jessica Pruett	Fisher.bill@bellsouth.net; Jessica.pruett@usm.edu
Pearl Oysters		Under construction
Regulations	Annie Fagan, Tessa Getchis	Annie.fagan@maine.edu
Ribbed Mussels	Michael Acquafredda	Michael.acquafredda@rutgers.edu
Robotics & Emerging Technology	Allen Pattillo, Katie Houle	dapatt@umd.edu; katie@pacshell.org
Scallops		Under construction
Seafood Health		Under construction
Shellfish Restoration & Conservation	Peter Kingsley-Smith	kingsleysmithp@dnr.sc.gov
Shrimp ENCODE - Shrimp Genomes & Epigenomes	Kathy Tang, Acacia Alcivar-Warren	Ktangnelson@gmail.com; acacia.warren.rcs@gmail.com
Social-Ecological Systems	Kaitlyn Kowaleski	krkow@uw.edu
Spatial Planning		Under construction
Summer Mortality	Tim Green	Timothy.green@viu.ca
Vibrio	Steve Jones	Stephen.jones@unh.edu
Wild Shellfisheries	Courtney Hart, Christopher Biggs	chart@pgst.nsn.us; Christopher.biggs@dfw.wa.gov
General Contributed Papers		

COME AND CELEBRATE 50 YEARS OF INTERNATIONAL PECTINID WORKSHOPS!

The International Pectinid Workshop is coming to New Bedford, Massachusetts, USA, April 22-28, 2026. The meeting will be held in the Whaling Museum.

This is your chance to enjoy all things scallop – bring your latest research and ideas, and enjoy the camaraderie of fellow scallop enthusiasts. Watch for updates.

https://internationalpectinidworkshop2026.com

Over 20 years, Janet Brown has supported the shellfish industry and the NSA through her boundless efforts publishing shellfish news in *The Grower*. We wish her well on her retirement (and fingers crossed for that hole-in-one!) Photo credit: Heather Moore (AFBI).

The NSA store is open for Christmas!

$5 flat-rate shipping on all orders

Great stocking stuffers

Keep track of your favorite oyster tastings with this pocket-sized diary. Fits easily in a card, also! $5

Cookbook: $10 each or 3 for $25

T-Shirts: short-sleeved $12

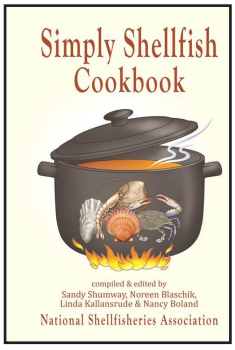
long-sleeved $18

Pins: pewter: sm $4, lg $6
gold: sm $5, lg $12
tie tacs: $15

Contact Sandy to place your order

All proceeds benefit the Student Endowment Fund

Consider a gift membership for your favorite student!



Sea Cucumbers: Cancer Fighting Breakthrough?

Resulting from collaborative research by the University of Mississippi and Georgetown University, scientists have discovered a unique sugar in sea cucumbers that can block the activity of Sulf-2 - a key enzyme linked to cancer spread. This humble marine invertebrate could also hold the key to stopping the spread of cancer.

The Florida sea cucumber, Holothuria floridana. *(Photo credit: The Alchetron)*

The Sulf-2 enzyme plays a critical role in cancer development by modifying glycans - tiny, hairlike structures that help with cell communication, immune responses, and the recognition of threats such as pathogens. Cancer cells alter the expression of certain enzymes, which then modify the structure of the glycans. These changes help cancer cells evade the immune system and promote their spread to new tissues.

The research was spearheaded by Marwa Farrag (fourth-year doctoral candidate) and Dr. Vitor Pomin at the University of Mississippi who collaborated with scientists from Georgetown University. Using both computer modeling and laboratory testing, the research team found that the sugar – fucosylated chondroitin sulfate – from *Holothuria floridana* can effectively inhibit Sulf-2. This sugar binds directly to Sulf-2, blocking its ability to modify glycans on cancer cell surfaces. By disrupting this process, the sugar prevents cancer cells from altering their environment, effectively limiting their ability to invade new tissues and evade immune detection.

Unlike other Sulf-2 regulating medications, the sea cucumber compound does not interfere with blood clotting; and unlike extracting carbohydrate-based drugs from pigs or other land mammals, extracting the compound from sea cucumbers does not carry a risk of transferring viruses and other harmful agents, the sea cucumber compound may be easier to create and safer to use.

Farrag, M., Aljuhani, R., Benicky, J., Al Ahmed, H., Misra, S.K., Mishra, S.K., Sharp, J.S., Doerksen, R.J., Goldman, R., and Pomin, V.H. (2025) Heparan-6-O-endosulfatase 2, a cancer-related proteoglycan enzyme, is effectively inhibited by a specific sea cucumber fucosylated glycosaminoglycan, Glycobiology, *35 (6): cwaf025, https://doi.org/10.1093/glycob/cwaf025*

Abstracted from: www.olemiss.edu/news

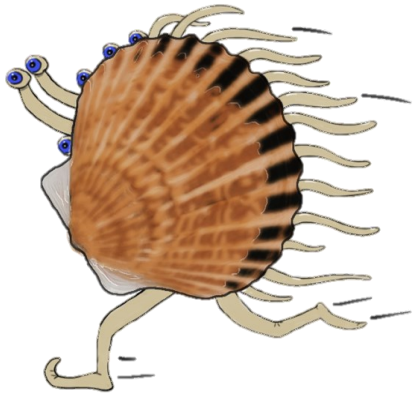
NSA AT THE MOVIES

Do you have a shellfish-related video or movie you would like to share?
Eric Heupel (eric@heupel.com)

Movies will be playing on a loop throughout the conference - pop in when you have time!

The Scallop Gallop

NSA 5K in Portland



Contact Emily or Anne:
efuqua@fsu.edu
anne.gilewski@uconn.edu

Recruits Corner

Dear Recruits,

We hope everyone is having a happy fall season.

We are busy getting ready for the upcoming NSA Annual Conference in Portland, Oregon on March 22–26, 2025. Abstracts for presentations and applications for student travel awards are due by **December 15th**. Travel Awards are drawn lottery-style, and students who receive a travel award will receive either a registration waiver or a free shared room for the conference in exchange for volunteering during the conference. Volunteer shifts normally cover selling merchandise at the sales booth, running AV during presentation sessions, uploading talks, or generally just helping out around the conference. Your NSA student membership must be renewed before **December 15th** to be eligible for the Travel Awards. If you are not submitting an application for Student Travel Awards, we hope you will still consider volunteering at the conference.

Student members receive a discount on conference registration, so renew your NSA membership to be eligible. Be sure to get your registration in before the early bird price ends in February. When you register, sign up for the student presentation awards. You deserve the chance to be recognized for an outstanding presentation. Also, stay tuned for emails early in 2026 about sign-ups for all of our favorite graduate student events, including the student field trip and the Mentor-Mentee Breakfast.

This coming year, we will have an open co-chair position. Emily is stepping down, and we are looking for another student to join Anne next year to help plan our graduate student events. This position is a fantastic opportunity. The student Recruits Co-chair will need to be able to attend the 2027 and 2028 NSA Annual Conferences (travel assistance available). If you have questions, please reach out, and if you are interested, please send Emily and Anne a CV and short statement of interest in the position by Monday, December 15th.

We are always happy to hear from you, so reach out with ideas, questions, or concerns.

Emily Fuqua (efuqua@fsu.edu)
Anne Gilewski (anne.gilewski@uconn.edu)

Last Call for Applications for the Student Travel and Student Presentation Awards

Students are invited to participate in the Student Travel Award Lottery which provides students with either a registration or lodging waiver. The deadline for applications is December 15th. To be eligible, students are required to have renewed their NSA membership by the lottery deadline. Last year, the SEF committee received 26 applications from students, 25 of which were eligible. A total of 16 students received funding, with 10 students being provided with shared accommodation at no cost (5 rooms x two students per room) and 6 students being provided with registration waivers.

The abstract submission deadline is December 15, 2025

At the Portland meeting, the NSA will be adjudicating competitions for both its Thurlow C. Nelson (Outstanding Oral) and Gordon Gunter (Outstanding Poster) Presentation Awards. The winner of these awards receives membership in NSA for two years and a certificate of accomplishment. If you will be a graduate student presenter at the meeting (or are a recent graduate presenting a portion of your M.S. or Ph.D. research) and want your presentation (oral or poster) to be considered for these awards, please contact me (Stephen.Geiger@MyFWC.com).

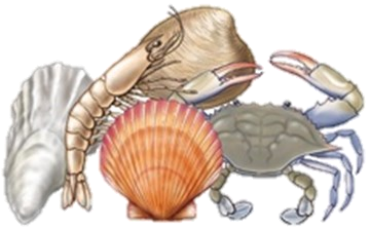
The Presentation Awards would not be possible without judges. If you will be attending the Portland meeting and are willing to serve as a judge, please contact me.

More information will be forthcoming once the schedule of eligible presentations and the judges list have been finalized. More information about both of these student support opportunities can be found here: https://www.shellfish.org/sef-student-presentation-and-travel-awards.

Also, the SEF currently has one seat vacant. If you would be willing to help with the Committee, please contact me or any of the board members.

We look forward to seeing you in Portland!

Stephen Geiger
NSA Student Endowment Fund Committee Chair



Vote! Ballots are on their way. Watch your mailbox! Vote!

NSA Pacific Coast Section News

Maddie Hicks (new Secretary) at the NSA-PCS table . Photo credit: Sandy Zeiner

As gray skies and cooler temperatures signal the arrival of winter in the Pacific Northwest, we're pleased to share that the 79th Annual Shellfish Conference and Tradeshow, jointly hosted by the Pacific Coast Shellfish Growers Association (PCSGA) and the National Shellfisheries Association Pacific Coast Section (NSA-PCS), was a great success.

Held September 9–11, 2025, at the Vancouver Hilton in Vancouver, Washington, this year's event brought together about 340 attendees from across the region and beyond. Participants enjoyed a dynamic program of presentations, networking opportunities, and discussions focused on the latest research and innovations in shellfish science and aquaculture. The Tradeshow featured 19 vendors showcasing cutting-edge technologies, tools, and services designed to support the continued growth and sustainability of the shellfish industry. Thank you to everyone who attended, presented, and exhibited - your engagement and enthusiasm continue to make this annual gathering a highlight of our shellfish community.

The conference featured more than 65 oral presentations across 18 sessions and several engaging workshops. This year's workshops included 'Eelgrass', 'Storytelling', and the always popular 'Ladies in Aquaculture'. A special session, 'The Taste of Place', offered attendees a sensory journey into the world of oysters - exploring how anatomy, farming practices, and seasonality shape flavor. We were honored to welcome Julie Qiu, co-founder of the Oyster Master Guild, as the 2025 Legends in Shellfish Speaker, and Erin Byers Murray, author, and Island Creek Oysters alum, as our Luncheon Speaker, who shared inspiring stories from her time working on the oyster farm. Both sessions were highlights of the program - informative, heartfelt, and full of enthusiasm for our industry.

The NSA-PCS continues its strong commitment to student participation. This year, NSA-PCS provided funding to support students attending the conference. While overall student attendance was down compared to last year, we were pleased to have eight students present their research. The 2025 NSA-PCS Outstanding Student Presentation Award was presented to Skylar Wuelfling (California Polytechnic State University, San Luis Obispo) for her talk, "Evaluating the effects of tidal height on shelf life and stress tolerance in Pacific littleneck (*Leukoma staminea*) and Manila littleneck (*Venerupis philippinarum*) clams". The runner-up award went to Faith Hanshaw (California Polytechnic State University, San Luis Obispo) for her presentation, "A comparison of survival, growth, and stress resilience in three different lineages of Pacific oysters farmed on the California coast". All the student presenters did an excellent job sharing their research, and we look forward to seeing updates on their research next year. Additional student support was generously provided by Arcadia Point Seafoods, Chelsea Farms, Chuckanut Shellfish, National Fish and Oyster Co. Inc., Whiskey Creek Shellfish Hatchery, and Swinomish Fisheries - a big thank-you to all these sponsors for their continued support!

The NSA-PCS and PCSGA also jointly offer the Kenneth K. Chew Student Research Grant, a competitive award providing $1,200 to a graduate student to support their shellfish research. Applications for the 2025–2026 cycle are now open. Students interested in applying are encouraged to contact NSA-PCS for details (szeiner@nwifc.org).

Student Presentation Awardee Skylar Wuelfling (right) and Award runner-up, Faith Hanshaw (left). Photo credit: Sandy Zeiner

The Silent Auction was another highlight of this year's meeting. It was successful, lively, and full of friendly competition. Thanks to proceeds from the auction, individual donations, the student fundraiser, and registration fees, the NSA-PCS raised more than $3,000 to help fund student participation in future meetings. This year's student fundraiser "Clam-nado" was challenging and entertaining. A heartfelt thank-you to everyone who donated, bid, and contributed to this effort. Your generosity directly supports the next generation of shellfish researchers and professionals!

The NSA-PCS Annual Business Meeting and Luncheon was held during the Conference. Elections were conducted for several board positions and we are pleased to share the results: Treasurer, Laura Spencer (with Jennifer Ruesink serving as shadow); Secretary, Maddie Hicks; Member-at-Large #2, Ashleigh Epps; and Member-at-Large #3, Alex Marquardt. Congratulations and a warm welcome to our new and returning board members! A heartfelt thank-you to all board members for their continued dedication, time, and support of NSA-PCS and its mission.

Looking ahead, the 2026 Conference Planning Committee is already preparing for the 80th Annual Shellfish Conference and Tradeshow, which will take place September 14–17, 2026, at the Semiahmoo Resort in Blaine, Washington. We invite you to join us in celebrating this special milestone alongside some of our favorite attendees. Stay tuned for announcements and details coming soon. The Call for Presentations will open May 2026, and more information can be found at https://pcsga.org/annual-conference or by following the NSA-PCS on Facebook (https://www.facebook.com/pages/Pacific-Coast-Section-of-the -National-Shellfisheries-Association/1438569826443936).

Have a wonderful and safe winter, and I hope to see you at the 118th Annual NSA conference in Portland, OR in March 2026.

Sandy Zeiner
Pacific Coast Section Chair

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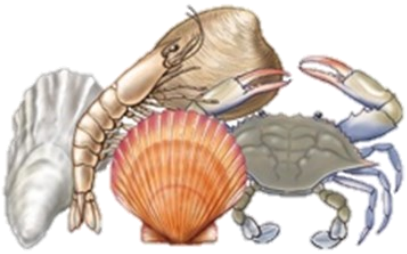

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RENEW YOUR DUES

Be sure to review your membership profile. Contact secretariat@shellfish.org with questions.

www.shellfish.org

Upcoming Events

NACE/Milford Aquaculture Series: Jan. 7-9, 2026. Portland, Maine, USA. For more information: https://www.northeastaquaculture.org/

9th International Shellfish Conference: Jan. 22-23, 2026. The Netherlands. For more information: https://www.schelpdierconferentie.com/en/home

Aquaculture America 2026: Feb. 16-19, 2026. Las Vegas, Nevada. For more information: www.was.org

Florida United Malacologists: - Apr. 11, 2026. Florida, USA. For more information: https://shellmuseum.org/shells-and-science/florida-united-malacologists/

24th International Pectinid Workshop: Apr. 22-28, 2026. New Bedford, Massachusetts, USA. For more information: https://internationalpectinidworkshop2026.com/

American Malacological Society 2026: Jun. 15-18, 2026. Syracuse, New York, USA. For more information: https://ams.wildapricot.org/

CLAMA 2026 - XIII Congreso Latinoamericano de Malacologia: Aug. 17-21, 2026. Cartagena, Colombia. For more information: https://asocoma.co/

International Conference on Molluscan Shellfish Safety: Sept. 6-11, 2026. Exeter, England, UK. For more information: https://www.icmss.net/

7th World Conference on Marine Biodiversity: Nov. 17-20, 2026. Belgium. For more information: https://www.wcmb2026.org/

119th NSA Annual Meeting: Mar. 20-27, 2027. Baltimore, Maryland, USA. Watch for details.

120th NSA Annual Meeting (Triennial): Feb. 7-11, 2028. Seattle, Washington, USA. Watch for details.

If you would like to announce a meeting, conference, workshop, or publication of interest to NSA members, please contact the *QNL* Editor, Steven Allen (stevenmallen@gmail.com).