

Fishery Industrial Technology Center (FITC) Update
School of Fisheries and Ocean Sciences, University of Alaska Fairbanks
www.sfos.uaf.edu/fitc

Ongoing Activities, June 2011

The FITC faculty and staff provide this monthly update for those interested in the teaching, research and public service at FITC. Please contact us with questions.

News

The University of Alaska FITC Task Force has completed their **program review of FITC**. To read the full report, see <http://www.sfos.uaf.edu/fitc>

Naim Montazeri, a graduate student at FITC, is the **first recipient of the Oscar Dyson Memorial Scholarship**. From the NOAA website (NOAA's research vessel is named the Oscar Dyson) "Oscar Dyson worked in Alaska's fishing industry for a half-century before his death in October, 1995. He pioneered the expansion of the commercial fishing of crab, shrimp, and pollock. Mr. Dyson also was a founding partner of All Alaskan Seafoods, which became the first company controlled by fishermen who owned both the vessels and the processing plants. He was a well-known fishing activist in Alaska and industry advisor to government. Dyson was dedicated to managing and improving the industry for the many Alaskans who make their living at sea." The scholarship comes from a gift to FITC from Oscar's widow, Peggy Dyson and is made available each year to an FITC student.

Lale Gurer, a graduate student studying with Quentin Fong at FITC has just accepted the position of **Economic Development Specialist for the Kodiak Chamber of Commerce**. She will start on September 1 and will be working closely with the City of Kodiak, Kodiak Island Borough, FITC and local businesses (especially seafood processors) on community and fisheries related issues and new opportunities.

Alaskan Leader Fisheries and Aleutian Spray Fisheries recently gave \$15,000 each to the University of Alaska Foundation to support research being done at FITC by Alex Oliveira and Peter Bechtel of the Kodiak Center of the UAF School of Fisheries and Ocean Sciences. We hope that philanthropic giving by the seafood industry to the Kodiak Center is a growing trend which will offer much needed support for the operations there.

The potential loss of USDA funding for seafood byproduct research was highlighted in a widely distributed news story by Dan Joling. See

http://www.alaskajournal.com/stories/061011/fis_Atlarstb.shtml

Upcoming –

- **Tuesday, July 26th FITC Lunch Seminar** – The last lunch seminar until fall in the FITC series is titled, "Who Eats Our Fish – Markets for Alaska Seafood" by Dr. Quentin Fong, FITC/MAP marketing specialist. The talk will be videoconferenced to Petersburg and Anchorage.
- **Saturday, August 27th. A community smoked salmon sensory test** will be undertaken at the Kodiak Convention Center. Naim Montazeri, FITC graduate student will invite any interested community members to test cold-smoked salmon treated by a refined liquid smoke. The refined liquid smoke has

been commercially manufactured to be applied to food as an antibacterial additive. So far, the results of our study show that it has significant anti-Listeria activity. We hope that application of this refined liquid smoke to cold-smoked salmon does not significantly change its flavor and color. One of the objectives of this test is to find out if the consumers can differentiate between cold-smoked salmon when liquid smoke is applied versus those that are not received liquid smoke; the exact methodology of the sensory test depends on the final result of the microbiology tests that will be finalized by the second week of the August.

Teaching (teaching and student support by FITC faculty)

Katie Brenner, longtime Kodiak resident and research technician at FITC received her Masters Degree in Seafood Science from UAF, School of Fisheries and Ocean Sciences. Her thesis was titled "Quality Assessment of Commercially Harvested Weathervane Scallop (*Patinopecten caurinus*) & Purple-Hinge Rock Scallop (*Crassadoma gigantean*) from Alaska." **Stuart Thomas, defended his thesis, "Growth and Post-Harvest Quality of Selected Pacific Oysters Cultured in Kachemak Bay, Alaska and Puget Sound, Washington."** Stuart will graduate this fall.

Summer visitors working at FITC

Kristina Miller started her undergraduate internship working with Alex Oliveira. **Kevin Lauscher, Kodiak High School teacher** started his externship. Alex conducted many activities with them such as dry-ice making to exemplify the process of sublimation and pH measurements in acidic aqueous environments, water activity measurement in shelf-stable fish products, salt and moisture content of smoked fish samples, processing fish, and cold- and hot-smoking of sockeye and herring, respectively. Alex taught Kevin and Kristina processing of herring, from Togiak. Herring was brined and hung in the smoked cart for hot-smoked processing.



Brian and Alex met with Kevin at the end of his time at FITC. He is reworking the food science course syllabus after receiving a couple of weeks training in the FITC pilot plant (see attached photo) and in the analytical chemistry lab to learn techniques that he will teach at KHS and will assist when the students visit FITC.

Research

Marine Mammal research

Kate Wynne participated in a joint ADFG/University of Wyoming **study of river otters** on the western shores of the Kodiak Archipelago. While assisting with density surveys and collection of DNA samples,

she gained insights on the role of this piscivorous predator/potential competitor in nearshore marine waters and developed skills needed to develop a similar study within the Gulf Apex Predator study area. Kate also conducted a **bimonthly aerial survey of whales** in the Kodiak Archipelago. In addition to counting whales seen along the standard transects, she flew along the eastern shore of Kodiak Island, then circumnavigated both Sitkinak and Tugidak Islands. This served 2 purposes: 1) she searched the more productive “collector beaches” for marine mammal carcasses that may have come ashore during the time when the US Navy was conducting mid-frequency sonar testing to offshore of Kodiak and 2) she took aerial photos of harbor seal haulouts around the Sitkinak and Tugidak Islands where a rancher has requested permission to conduct activities with potential to disturb seals.

Seafood byproduct use research

Scott Smiley, Peter Bechtel and a number of researchers at FITC developed a proposal for seafood byproduct research for next year. Projects include: production of small basic proteins and sterol enriched fractions from **dried salmon testes meal for testing as growth promoters** and immune system stimulants in cultured species. Another will identify materials that may have a high percentage of phospholipids and then evaluate concentrations of PUFA DHA, EPA, and ArA in TAG and phospholipids in the materials. A different project will analyze **how to produce fish sauce from undersized unmarketable** fish and another will look at dried fish heads and undersized species as potential new products. Details on this and other seafood byproduct projects are available from Scott Smiley.

Two other projects to be carried out by Brian Himelbloom is to compare the analysis of biological oxygen demand and chemical oxygen demand to see if there is a correlation that would **shorten the time needed to conduct seafood processing wastewater analysis** necessary to remain within the operator's permit restrictions set by the U.S. Environmental Protection Agency. The second proposal is to use a high-tech pulsed ultraviolet light system for inactivating bacterial contaminants to extend the fresh shelf life of high-value seafood byproducts such as salmon livers and pollock milt being directed at the overseas consumer market.

Seafood product research

Alex and Chuck went to Bristol Bay to sample salmon for the last year of the study to compare lipid levels and other inherent characteristics of various salmon stocks across the state.

Other

A number of faculty and students attended, chaired sessions and made presentations at the **Institute of Food Technologists Meeting** in New Orleans. Chuck gave a talk on *Value Added Processing in Alaska*. Alex served as the Chair of the IFT 2011- Aquatic Food Products Graduate Student Competition and served as organizer and moderator of session title ‘Innovations in Aquatic Food Products’. Peter Bechtel was involved in 13 presentations during the meeting.

Brian worked with MAP agent Julie Matweyou to set up a lab to begin using the Abraxis kit for sampling shellfish for PSP. This is an alternative testing protocol that is not considered “official” but can be an indicator of levels needing testing using the standard mouse bioassay. Julie is also reviewing the potential to begin a **plankton monitoring program** for Kodiak Island.

Public Service

Julie Matweyou was interviewed by Maggie Wall at KMXT requesting info/interview regarding PSP

http://www.kmxt.org/index.php?option=com_content&task=view&id=2891&Itemid=2

Brian made a chemical reagent, Gram's iodine, used in staining of bacterial cells for viewing these cells under the microscope and provided the reagent to Providence Kodiak Island Medical Center's Laboratory Manager. The PKIMC's medical technologist stopped by on the same day to pick up the freshly made reagent, since their supply had not arrived in time for laboratory testing of clinical samples.

Peter Bechtel, Jessie Stine and Brian Himelbloom attended **the 3rd Global Food Alaska conference** <http://www.gfc-connect.com/?page=Program> in Soldotna, AK, courtesy of affiliate faculty Dr. Peter Bechtel, USDA-ARS, whose organization provided a spot to highlight both the USDA/ARS Seafood Byproduct Program and UAF/FITC research program. The 2.5-day conference was attended by about 200 professionals in the food industry inside and outside of Alaska. We learned the goings-on of the activities by many entrepreneurs within Alaska working on seafood, meat, dairy, vegetables and spice products, along with sampling the efforts provided by several culinary chefs. The group interacted with many individuals representing companies interested in the research conducted at FITC.

Quentin Fong is co-chair, and Julie Matweyou is the alternate, of the Education Committee for the **Kodiak Filipino-American Association**. Filipino-Americans make up almost the entire processing workforce in Kodiak. Working conditions are good; current issues are displacement by other international seasonal employees, and subsistence food safety.

Quentin is working with the Providence Kodiak Island Counseling Center to assist mentally challenged clients in a jewelry-making venture. The objective is to teach **business and marketing skills to potential entrepreneurs**.

Chuck traveled to Platinum to give plant specific **HACCP and Quality training for Coastal Villages Seafoods**. He also met with Kuskokwim Seafoods, Bethel and reviewed their HACCP and quality control plans for the upcoming season. He visited their floating processor and offered suggestions for product flow and packaging options.

Chuck worked with Haines Packing and Pickled Willy's (Kodiak) to develop product labels and nutritional label statements. He tested a retort thermometer for a Petersburg smoked salmon processor. He also provided data loggers and discussed heat distribution test for commercial smoker in Klawock and prepared step-by-step instructions for conducting the test.

Chris Sannito continued on contract to FITC visiting and providing **technical assistance to Kodiak's seafood processing companies** and developing a suite of short courses for this fall.

Professional Service

Brian reviewed a proposal submitted to the University of Delaware Sea Grant program. He also reviewed a manuscript submitted to the *Journal of Food Safety*

http://www.blackwellpublishing.com/journal.asp?ref_49-6085&site=1.