

The Big Squeeze

News from the High Hydrostatic Pressure Laboratory at Virginia Tech * Spring 2004

Workshop and Demonstration on High Pressure Processing

Registration
Deadline
April 26th!

May 11-12, 2004

VT High Pressure Processing Laboratory
Blacksburg, Virginia

To register, visit our website (www.hpp.vt.edu/workshop),
or contact Laura Douglas at hpp@vt.edu.

VT High Pressure Laboratory News

Stephanie Penn recently joined the staff of the laboratory as Research Coordinator. Stephanie holds a M.S. in Food Science (VT, 2003). She is responsible for coordination and implementation of research protocols on the effects of high pressure treatment on a variety of food products currently under evaluation at the laboratory.

At the **International Boston Seafood Show** this year, the Virginia Tech/Virginia Sea Grant booth will be focusing on the potential of high pressure to provide safe, wholesome, and appetizing products. Please stop by to visit us in the Virginia Pavilion, booth #2937.

Over the winter, the Avure HPP unit at the laboratory was **upgraded** with the addition of a chiller to the water tank, and a lined basket to be used inside the pressure vessel. The chiller allows processing of foods at temperatures as low as 4°C (40°F), expanding the number of products that can be tested in the laboratory. The lined basket also increases versatility by making it possible to process products that could release particulates into the water bath (i.e. shellfish, crustaceans).

This March, work is underway to determine the optimal processing parameters for a variety of seafood and meat products. Many of the trials have been booked by outside firms looking for ways to improve shelf life or tackle specific quality and/or safety concerns within their finished product. The assays will include complete product testing (including microbiological and chemical analysis) before and after the treatments have been performed.

<http://www.hpp.vt.edu>

Research Updates

Current work at the lab is determining the effects of High Pressure Processing on:

- Pressure-resistant *Vibrio spp.* in oysters
- Oyster quality and shelflife extension
- Scombroid fish - reducing the toxicity of selected biogenic amines
- *Cryptosporidium parvum*
- *Toxoplasma gondii*

Meet Our Faculty



Dr. George J. Flick, Jr. received his B.A. in Chemistry as well as his M.S. and Ph.D. degrees in Food Science and Technology from Louisiana State University. His dedicated service to the VT Food Science and Technology Department began in 1969, and he was promoted to University Distinguished Professor in 1996.



Laura Douglas received her B.S. in Chemistry and Biology from the College of William and Mary, and her M.S. in Chemistry from Virginia Tech. Her lab experience includes work in surface chemistry, molecular biology, and food chemistry.



Stephanie Penn received her B.S. in Food Science from Pennsylvania State University, and her M.S. in Food Science and Technology from Virginia Tech. She has experience in product safety and new product development.

Virginia Tech

High Pressure Processing Laboratory

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- George Flick, Ph.D., Research Director
- Laura Douglas, M.S., Laboratory Manager
- Stephanie Penn, M.S., Research Coordinator
- Angela Correa, Public Information Officer
- Geoff Knobl, Web/IS Coordinator

The Big Squeeze is an occasional publication of the Virginia Tech High Pressure Processing Laboratory, and is dedicated to highlighting advances and opportunities in the field of high hydrostatic pressure processing.

Workshop Details

A High Pressure Processing Workshop and Demonstration will be held on the Virginia Tech campus May 11-12. The workshop will give attendees a prime opportunity to see high pressure processing in action, as well as gain perspectives on legal and regulatory issues, and consider practical aspects of the technology, including costs and potential benefits.

Information will be presented on the effects of high pressure processing on the physical, chemical, and biological composition of food, as well as how the treatment affects parasites, viruses, pathogens and spoilage microorganisms.

An industry panel will discuss how HPP technology is being used to develop new products, increase food safety, and improve firm profitability. Also, a variety



of foods produced using HPP will be available for tasting and evaluation.

Grant funding allows us to offer this workshop free of charge to attendees, but space is limited. Persons interested in attending must register no later than April 26, 2004.

HPP Publication Library

Beginning in 2002, when the concept of building a High Pressure Processing laboratory at Virginia Tech was just developing, we began to collect and organize every article of a scientific nature ever published on the subject of high pressure processing. The database of articles begins with the earliest work by high-pressure pioneers, and follows the development of the technology to the present time. The database includes articles on every product that has ever been tested using high pressure, as well as on the use of high pressure to inactivate pathogens and food spoilage organisms, alter enzyme profiles, extend shelf life, and affect the functional properties of fresh and processed foods.

The database, which now includes over 300 articles, is continually updated, and will be made searchable by Fall 2004. By offering the database online, the VT HPP laboratory will promote general knowledge and understanding of high hydrostatic pressure technology.

