WASHINGTON STATE UNIVERSITY

Food Processing Extension and Research Program

August 11th, 2026

Program

“Value-added processing of the agricultural outputs to create safe and high-quality profitable food products”

Vision:

To build a **sustainable integrated extension and research program**, addressing the technical issues in the value-added processing of the agricultural outputs of the state of Washington, the Pacific Northwest region, the Nation, and Globally.

Integrated Extension & Research Processing Program

Food Processing Technologies

Food Ingredients and Food Product Development

Engineering / Processing Solutions for Food Safety

Roles We Play in the Food Supply Chain

Plant Breeding – Development of New Varieties

- Screen the breeding lines for macronutrients and techno-functional properties
- Find ideal food product applications

Growers

- Assess the performance of the varieties (location, year over year, and agronomy) on nutrition and techno-functional properties

Food Processors (All Types and Sizes)

- Impacts of processing on the ingredient changes
- Development of food products
- Specific processing technologies
- Food Safety

Commodity Groups and Regulating Agencies

- Technical assistance
- Training development
- Policy support with technical information

Extension Program

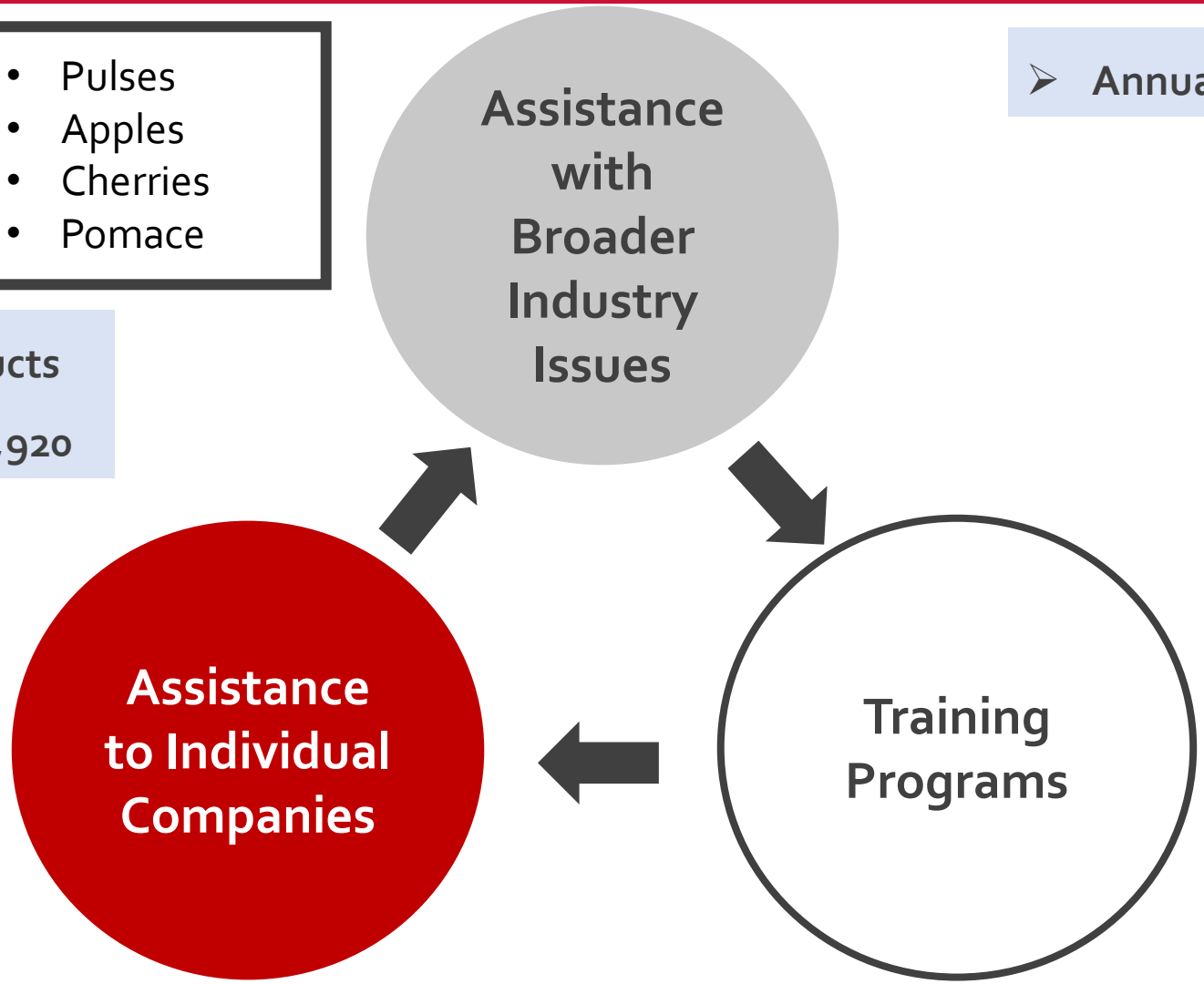
Food Processing and Safety Extension Program

- > $1.7 Million in fees generated

- Pulses
- Apples
- Cherries
- Pomace

- #shelf-stable food products evaluated to the market > 1,920

- Food Safety Plans
- Validations
- Process Authority
- Product Development
- Process Development



- Annually >20 workshops/trainings

- FSMA-PCHF
- FSMA-FSVP
- FSMA-PSR
- FSMA-Mixed Facilities
- Food Ingredient Technology (FIT)
- Extrusion Processing
- Product Development
- Basics of Sanitation
- CGMPs (English and Spanish)
- Internal Audit
- Food Safety and Sanitation Workshop
- BPCS

- Measured long-term economic impact > $120 million

08/11/2026

Go Cougs!

08/11/2026


FSS


IBERO PLAST
cimpa
Confía
VASANICO
USDEC
Barentz.
WEGO
compensa
IALIMENTOS
AXIOMA B2B MARKETING
EXPOIA 2025
USDEC
US CRANBERRIES
Saputo
Proliant
NUMEDIA
QUIMTIA
DARIGOLD
ACTUS
BTG
iGEO


+ WATER + ENERGY
9% + 81% + ENERGY (t)
V = shear energy
+ OIL(?) + H_2O + Energy (a,v)
Tighten load cell!
TMS-Pilot

Go Cougs!

Process Authority Work

Examples

Progene

Extrusion
Processing

BAF

Extrusion
Processing

Ingredion

Extrusion
Processing

General Mills

Extrusion
Processing

Rebellyous Foods

Product
Development and
Scale-up

Fruit Smart

Snack
Products with
Fruit Pomace

Examples

Lucks

Process Authority Services and Ingredient Functionality

Banza

Ingredient Quality Assessment & Product Quality

InstaPro

Frying oil Quality and Extrusion Press

Culinex

Various Extrusion Processing Projects

BulletProof

Extruded Product Development

Trident

Food Safety and Frying Process

Examples

Amazon

Food Safety Validations and Fruit Sorting Process

Tate & Lyle

Food Ingredients for Extrusion Processing

Starbucks

Food Safety Validations

Puris (a Cargill Co.)

Extrusion of Pea Proteins

Beyond Meat

Extrusion Processing of Plant Proteins

Motif Food Works

Extrusion Processing

Examples

Madrona Foods

Drying
Process &
Ingredients

Chukar Cherries

Food Safety
Process Validation

Turbopup

Scale-up; Mixing process &
Ingredients

HBF International

Drying
Process

Idaho Candy

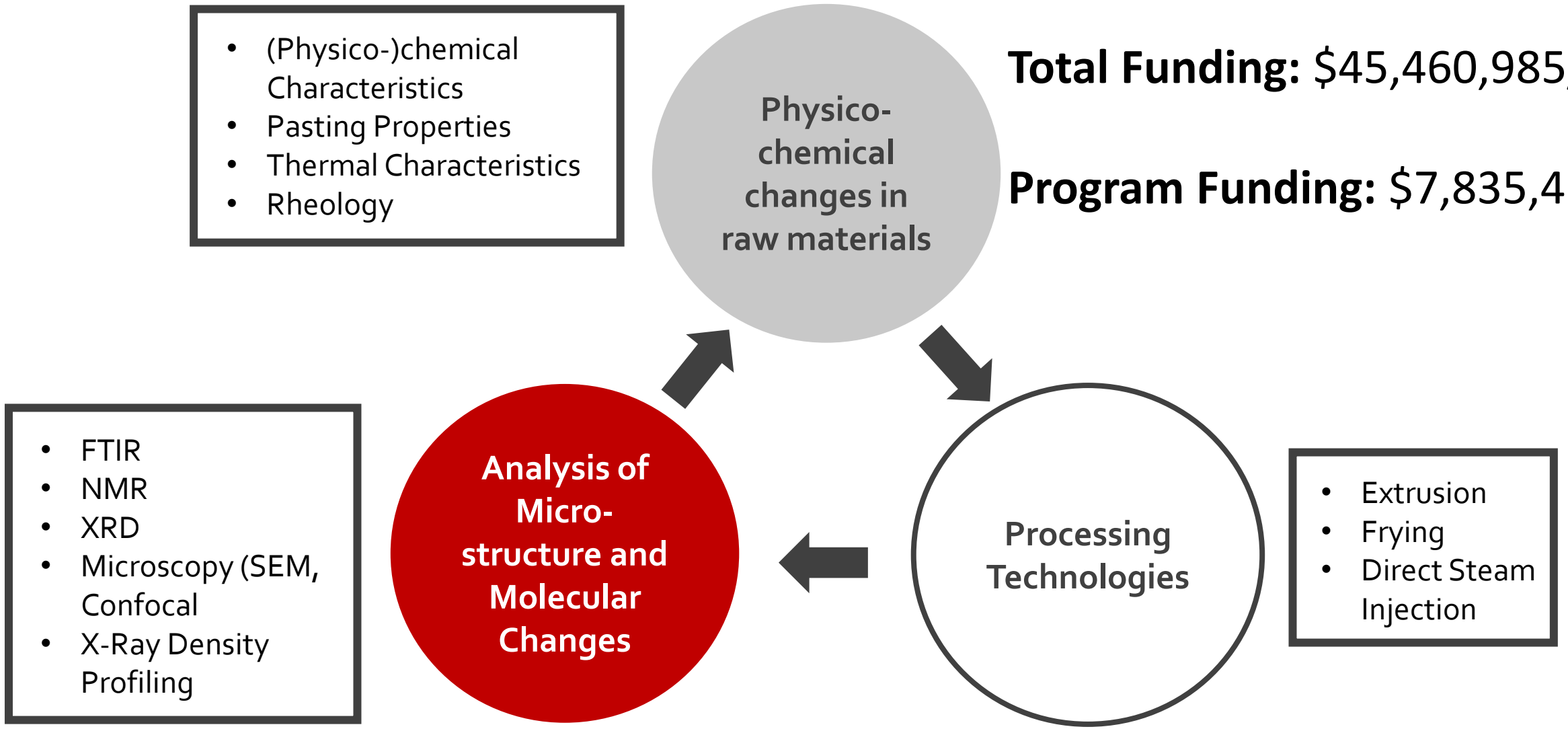
Food Safety
Process Validation

Lamb Weston, Inc.

Frying Process,
Freezing Process,
and Food Safety

Research Program

Food Processing Research Program

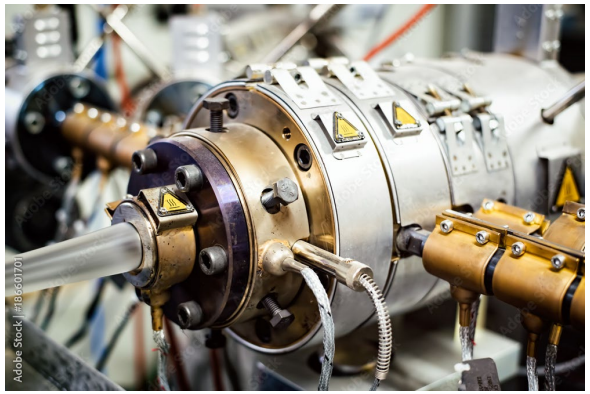


Total Funding: $45,460,985/-

Program Funding: $7,835,431/-

Process Technologies

Extrusion

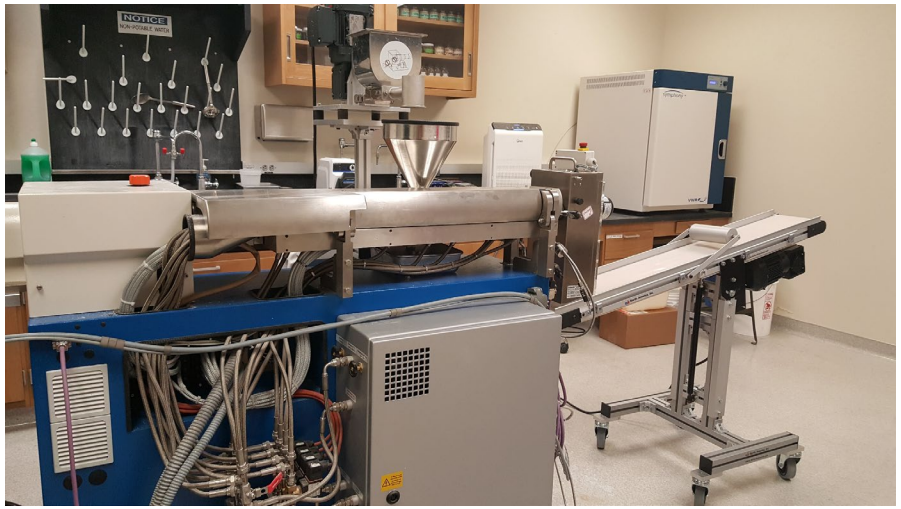


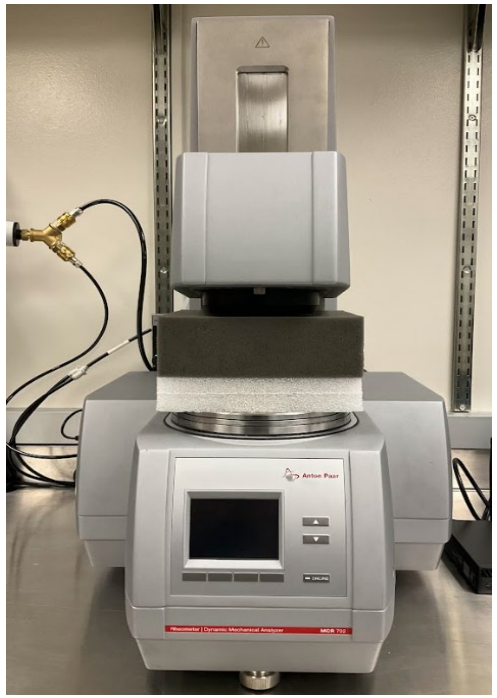
Direct Steam Injection

Frying

Baking

WSU State-of-Art Food Processing Laboratory





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Extrusion Program

RESEARCH

- Direct Expanded Products
- High Protein and High Fiber Products
- Textured Protein Products

- Pulses
- Dry Beans
- Quinoa
- Proso Millet
- Buckwheat
- Pomace

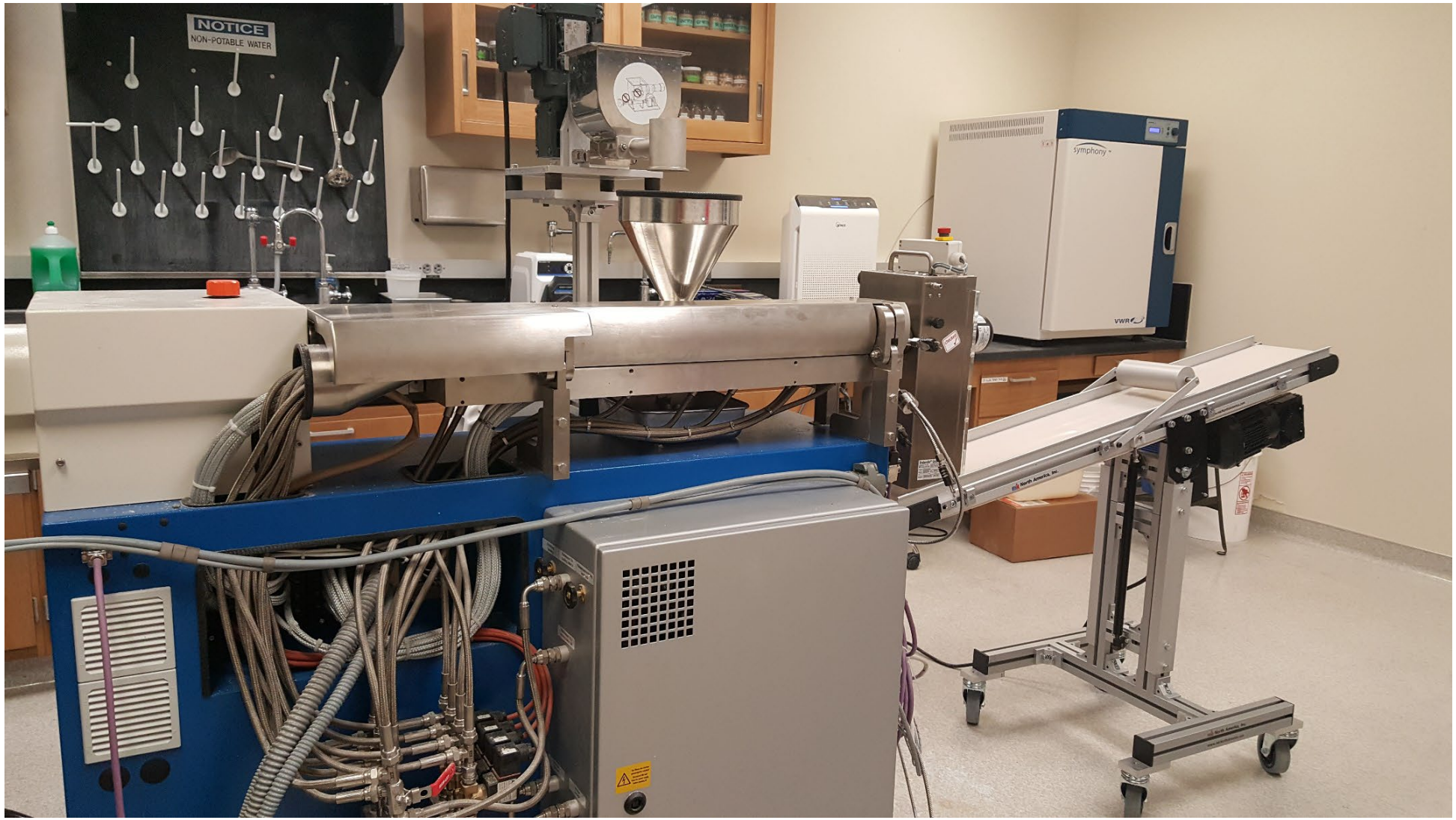
TEACHING

- Hands on Learning
- Industry Exposure
- Guest Lectures
- Live Demo Experiences at the IFT Annual Meeting

EXTENSION

- Short Course
- Assistance to Industry
- Assistance to Ag Commodity Groups
- National and International

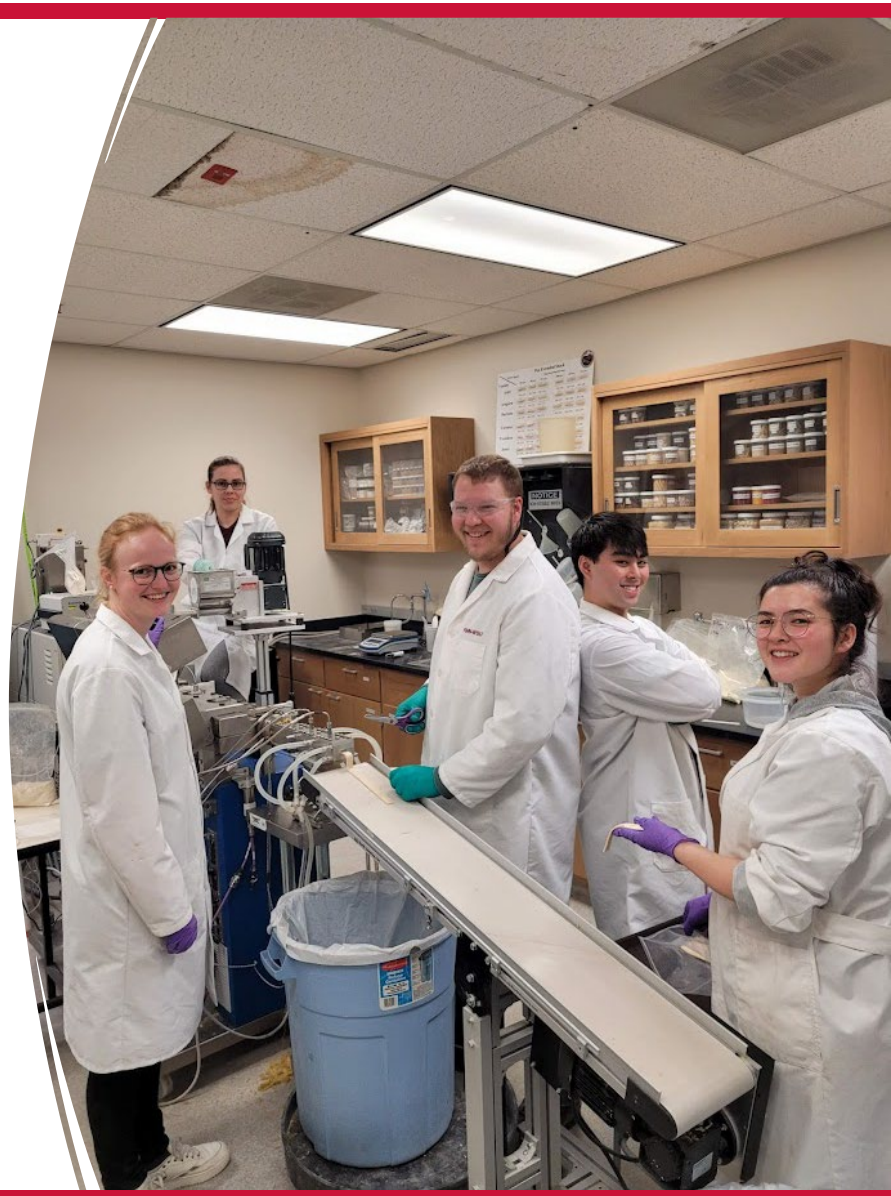
WSU State-of-Art Extrusion Laboratory



SE Asia (Helping Promote US Grown Commodities)

Philippines (Helping Promote US Grown Commodities)

Extrusion Processing Team



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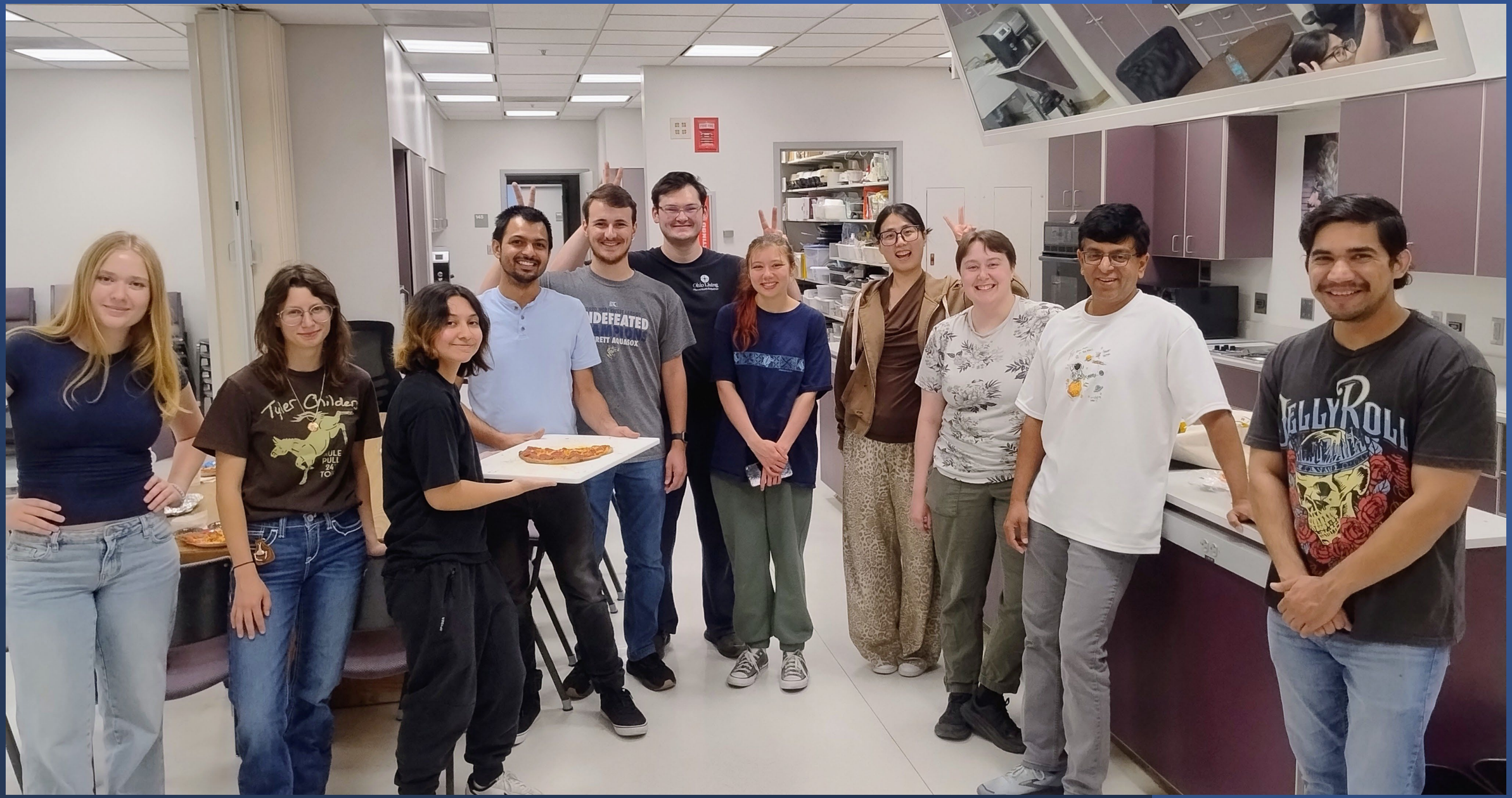

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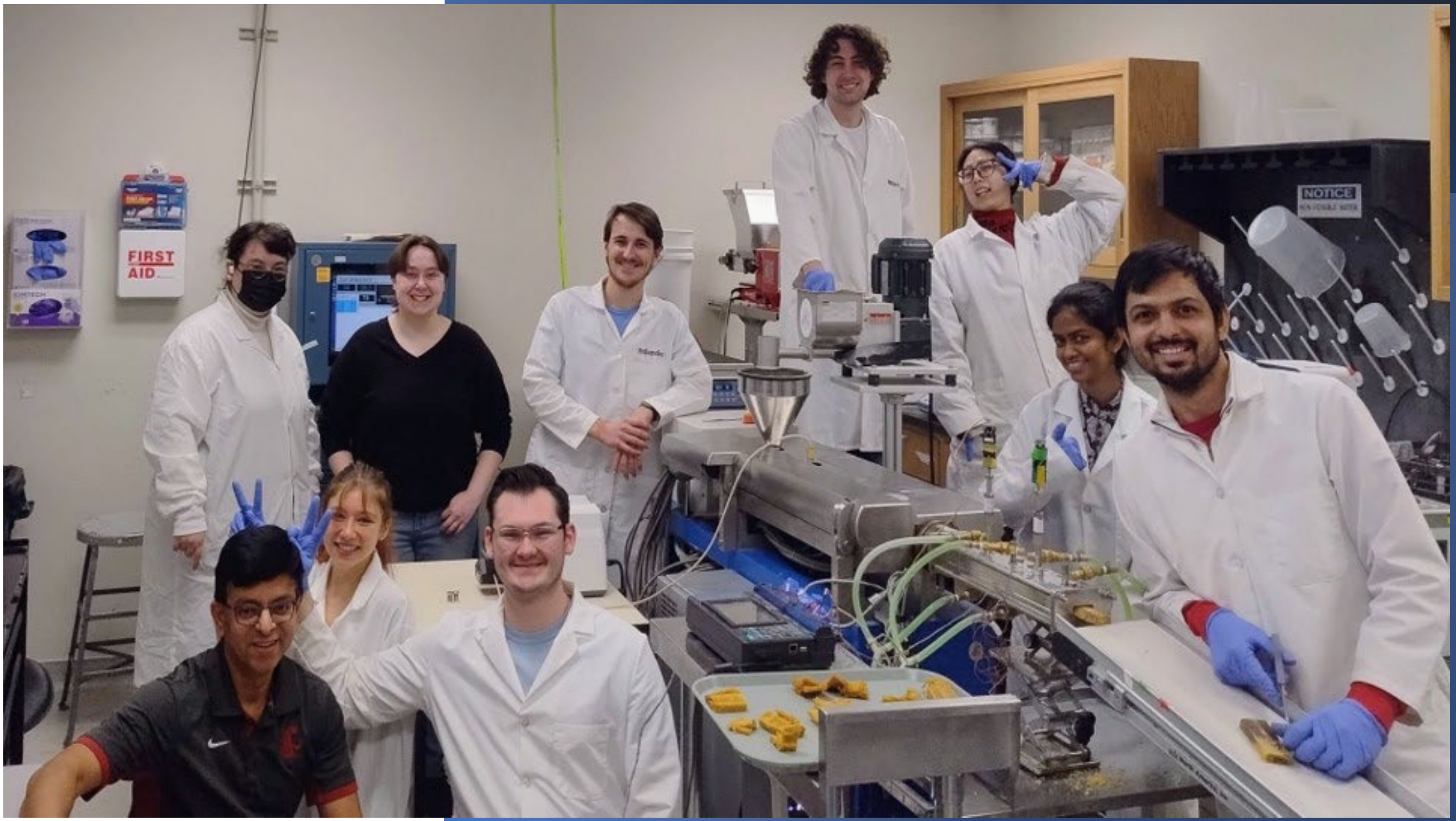

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Thank You!

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Lab Tour Today

FSHN 204
and
FSHN 212
(Wet Chemistry and General Analysis)

Hannah Johnson

FSHN 283
and
FSHN 289
(Analytical Systems and Extrusion Processing)

Steven Verver

Emmersyn Laundry