

## OBJECTIVES OF SHORT COURSE

- Train production personnel in principles and characteristics of extruders and support systems for effective selection and operation.
- Review current practices for preparation of full fat soy meal, processing raw animal products, preparation of pet foods, aquaculture, poultry and swine feeds.
- Demonstrate equipment in operation, and familiarize attendees with practical aspects of feeds extrusion technology.

## LOCATION AND FACILITIES

All lectures will be held at Rudder Tower on the Texas A&M University Campus. College Station temperature in February is in the 44-66°F (7-19°C) range. Participants will be taken by bus to Cater-Mattil Hall (TAMU Campus) for afternoon demonstrations. **Translation equipment is available by prior arrangements for organized groups willing to provide their own translators.**

## SHORT COURSE CONDUCT

All Short Course sessions will be informal. Insurance policies do not allow non-university personnel, other than original manufacturers, to operate equipment. Questions are encouraged during the lectures, breaks, and social periods. Laptops are allowed in the classroom to follow the presentations in the short course eBook manual. Rights to cancel this course with refund or to substitute speakers and change schedules, as necessary to expedite the course, are reserved. Texas A&M University System policy does not allow inclusion of alcoholic beverages in registration fees.

## TRANSPORTATION

Easterwood Airport at College Station is easily reached by about 10 flights daily. From Dallas/Ft. Worth International Airport connect via American Airlines (American Eagle Commuter). From Houston Intercontinental Airport connect via Continental Airlines (Continental Express). **The airport code for Easterwood Airport is CLL.** Participants should call the Hilton hotel (979/693-7500) upon arrival at Easterwood Airport for courtesy van service.

## ACCOMMODATIONS

Reservations for lodging should be made directly by attendee. A block of rooms has been reserved at the College Station Hilton and Conference Center for short course participants at the special rate of \$91/night plus tax for single or double occupancy. **Ask for the rate specifically and mention the Group Code FEEDS.** Hotel reservations must be received before January 9, 2010 in order to receive special rate. You can make your reservation by telephone, fax, or on the internet.

College Station Hilton & Conference Center  
801 University Drive East  
College Station, Texas 77840 USA  
Tel: 979/693-7500; Fax: 979/260-1931  
www.hiltoncs.com

When faxing or emailing hotel reservations, please include a credit card number to confirm your reservation, and also include your departure and arrival dates.

## REGISTRATION

Registration fee for the short course and pilot plant demonstrations is \$1,595 and includes the Sunday evening mixer, daily lunches, refreshments during breaks, local transportation, a short course eBook manual, and certificates of completion. Continuing Education Units (CEUs) are available for an additional fee upon request.

There is a 10% discount if three or more individuals from the same organization register for the short course. Academic discounts may be applicable if space is available.

Make checks payable to TEES (Texas Engineering Experiment Station) and mail to TEES Fiscal Office , 3124 TAMU, College Station, TX 77843-3124. You may pay the fee by credit card (American Express, Visa Diners Club or Master Card). **Registration fees are not refundable**, but substitute personnel may be sent by the same firm. Mail the registration form and a copy of your check to Cyndi Casanova, Short Course Coordinator (See address on registration application form). Space is limited; therefore, applications will be accepted on a first-come, first-serve basis.

You can also register on the web:  
www.tamu.edu/extrusion

## INSTRUCTORS

- Mr. Michael Bachelor, Solution Architect, Bachelor Controls, Inc  
Mr. Ray Bachelor, President, Bachelor Controls, Inc.  
Dr. Christopher Bailey, Professor, Poultry Science Dept., Texas A&M University  
Mr. Tom Barber, Regional Director, Americas, Bühler Aeroglide  
Dr. Delbert Gatlin, III, Professor, Wildlife and Fisheries Sciences Dept., Texas A&M University  
Mr. Gerry Hertzfel, Research Coordinator & Technical Service, Wenger Manufacturing Co.  
Mr. Gerald M. Leukam, Senior Vice President, Technical Operations, T.E. Ibberson Co.  
Mr. Jase Locke, Applications Coordinator, Bliss Industries, LLC  
Mr. Chris Mack, Research Associate, Extrusion Technology Program, Food Protein R&D Center, Texas A&M University  
Mr. Jim Mann, Technical Service Manager, Kemin Industries, Inc.  
Mr. Dave Mattice, Sales & Testing Manager, Automated Process Equipment Corp. (APEC)  
Ms. Debbie Phillips-Donaldson, Editor of Petfood Industry Magazine, Watt Publishing Co.  
Mr. Hennie Pieterse, Vice President, Engineering and Operations, Insta-Pro International  
Mr. Brian Plattner, Process Engineering Manager, Wenger Manufacturing Co.

- Dr. Mian N. Riaz, Head, Extrusion Technology Program, Food Protein R&D Center, Texas A&M University  
Dr. John Richard, Consultant, Romer Labs  
Mr. Galen Rokey, Process Technology Manager, Wenger Manufacturing Co.  
Dr. Nabil Said, Vice President, Nutrition & Extrusion Technologies, Insta-Pro International  
Mr. Jim Schulte, Feed Milling Technician, UAS Canada Inc.  
Mr. Jonathan Thorn, Director of Technology, MAC Equipment, Inc.  
Mr. Maurice "Moe" Williams, Director, Research & Development, Anderson International Corp.  
Dr. Jonathan Wilson, Director, Technical Marketing, DSM Nutritional Products

For additional technical information, write, call, fax or e-mail to:  
Dr. Mian N. Riaz  
Food Protein R&D Center  
2476 TAMU, The Texas A&M University System  
College Station, Texas 77843-2476  
U.S.A.  
Tel: 979/845-2774; Fax: 979/845-2744  
Email: mnriaz@tamu.edu  
www.tamu.edu/extrusion

## Upcoming Practical Short Courses

For details, visit [www.tamu.edu/extrusion](http://www.tamu.edu/extrusion)

14<sup>th</sup> Annual Snack Food Processing:  
Extruded Snacks & Tortilla Chips  
March 7-12, 2010

12<sup>th</sup> Annual Texturized Vegetable Protein  
and Other Soy Products  
August 22-27, 2010

17<sup>th</sup> Annual Aquaculture Feed Extrusion,  
Nutrition & Feed Management  
September 26 - October 1, 2010



The Extrusion Pilot Plant at Texas A&M University is available for contract research.

# Feeds & Pet Food Extrusion

January 31 - February 5, 2010

## 20<sup>th</sup> Annual Practical Short Course on

Register on the web:  
www.tamu.edu/extrusion

## Short Course Lectures

Register on the web:  
www.tamu.edu/extrusion

## Registration Application

### Sunday, January 31, 2010

6:00 PM Registration, Hilton Hotel  
6:30 PM Welcome Introduction and Announcements - Mian N. Riaz  
7:00 PM Social / Mixer with Cash Bar, Hilton (optional)

### Monday, February 1, 2010

7:40 AM Bus Leaves Hotel for Rudder Tower, Texas A&M University  
8:00 AM "Introduction to Extrusion" - Mian N. Riaz  
9:00 AM "Material Handling: Scalping, Magnetic Protection, Product Conveyance, Dust Control, Weighing, Mixing, Coating, Material Flow & Distribution, Hybrid Batching" and "Slipform Construction" - Gerald M. Leukam  
10:30 AM Break  
10:45 AM "Material Handling..." Continued - Gerald M. Leukam  
11:15 AM "Pneumatic Conveying of Extruded Products" - Jonathan Thorn  
12:00 PM **Group Photo**  
12:15 PM Lunch  
1:15 PM "Solutions to Common Grinding Problems" - Jase Locke  
2:15 PM "Principles of Dry Extrusion and Its Application in Feeds & Pet Food" - Hennie Pieterse  
3:00 PM Break  
3:15 PM "Dry Extrusion of Full Fat Soy and Partially Defatted Soybean Meal" - Nabil Said  
4:00 PM "Other Commercial Applications of Dry Extruders" - Nabil Said  
4:30 PM **Bus Leaves for FPRDC for Multiple Demonstrations:**  
**Full Fat Soy using Whole Soybeans with a Dry Extruder**  
**Full Fat Soy using Dehulled Soybeans with a Dry Extruder**  
**By-Products Recycling with a Dry Extruder**

### Tuesday, February 2, 2010

7:40 AM Bus Leaves Hotel for Rudder Tower, Texas A&M University  
8:00 AM "Pet Food: Global Market Trends" - Debbie Phillips - Donaldson  
8:30 AM "Optimizing Pet Food Quality: Oxidation Control, Microbial and Palatability" - Jim Mann  
9:45 AM Break

10:00 AM "Drying and Cooling Systems" - Tom Barber  
11:00 AM "Continuous Spray and Coating Systems" - Dave Mattice  
11:45 AM Lunch  
1:00 PM "Formulating Natural Pet Foods" - Jim Mann  
1:45 PM "Pet Food Treats" - Tom Barber  
2:45 PM Break  
3:00 PM "Characteristics and Applications of Interrupted Flight Expanders" - Moe Williams  
3:30 PM "Processing of Full-Fat Soy Products, Pet Foods and Aquaculture Feeds" - Moe Williams  
4:30 PM **Bus Leaves for Riverside Campus for Multiple Demonstrations:**  
**Full Fat Soy using Ground Whole Soybeans with an Interrupted Flight Expander**  
**Surface Coating System for Pet Food**  
**Dog Food with an Interrupted Flight Expander**

### Wednesday, February 3, 2010

7:40 AM Bus Leaves Hotel for Cater-Mattil Hall, Texas A&M University  
8:00 AM "Detour to Inspect Disassembled Single and Twin-Screw Extruders" - Cater-Mattil Hall, Wenger Associates.  
8:45 AM "Commercial Vitamin Product Forms, Vitamin Premixes and Their Performance in Pet Foods" - Jon Wilson  
10:15 AM Break  
10:30 AM "Raw Material for Extrusion Processing" - Galen Rokey  
11:45 AM Lunch  
1:00 PM "Single and Twin Screw Extruders and Their Application in Feed and Pet Foods" - Galen Rokey  
2:00 PM "Preconditioning - Effects on Extrusion of Feedstuffs" - Brian Plattner  
3:00 PM Break  
3:15 PM "Product Analysis Lab" - Brian Plattner  
4:30 PM **Bus Leaves for FPRDC for Multiple Demonstrations:**  
**Cat Food with a Single Screw Extruder**  
**Ultra-Fine Fish Feed with a Twin Screw Extruder**  
**Automated On-line Monitoring System for Moisture and Bulk Density**

### Thursday, February 4, 2010

7:40 AM Bus Leaves Hotel for Rudder Tower, Texas A&M University  
8:00 AM "Automated Control of Extrusion Systems" - Michael Bachelor & Ray Bachelor  
9:00 AM "Mycotoxin Concerns and the Pet Food Industry" - John Richard  
10:00 AM Break  
10:15 AM "Extrusion Die and Knife Technology" - Gerry Hertzell  
10:45 AM "High Fat Extrusion and Product Densification" - Galen Rokey  
11:30 AM **Graduation Lunch**  
1:00 PM "Vacuum Infusion Coating Principles for Pet Food" - Jim Schulte  
2:00 PM "Extrusion Processing Technologies" - Brian Plattner  
3:00 PM Break  
3:15 PM "Ensuring a Smoothly Running Extrusion Operation" - Galen Rokey  
4:00 PM "Extrusion Implications of Food Safety" - Brian Plattner  
4:45 PM **Bus Leaves for FPRDC for Multiple Demonstrations:**  
**Dog Treat with a Single Screw Extruder**  
**Premium Pet Food with a Twin Screw Extruder**  
**Vaccum Infusion System for Pet Food**

### Friday, February 5, 2010

7:40 AM Bus Leaves Hotel for Rudder Tower, Texas A&M University  
8:00 AM "Odor Control in a Pet Food Plant" - Jim Schulte  
8:45 AM "Feed Requirements for Aquaculture Species" - Delbert Gatlin  
10:15 AM Break  
10:30 AM "Least Cost Formulation" - Chris Bailey  
11:30 AM **Wrap-Up** - Mian N. Riaz

Practical Short Course on  
Feeds and Pet Food Extrusion  
January 31 - February 5, 2010  
Texas A&M University  
(Please Type or Print Clearly)

Name: \_\_\_\_\_  
This name will appear on your graduation diploma

Job Title: \_\_\_\_\_

Company: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Zip Code: \_\_\_\_\_ Country: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

Name for Nametag (name you would like to be called): \_\_\_\_\_

Contact in case of emergency: \_\_\_\_\_

List any special diet requirements: \_\_\_\_\_

Method of Payment (mark one)

Check payable to TEES

If paying with credit card please include type of card:

American Express

Visa

Master Card

Number: \_\_\_\_\_

Exp. Date: \_\_\_\_\_ Total Amount: \$ \_\_\_\_\_

Name on Credit Card: \_\_\_\_\_

Verification Code on back of Credit Card: \_\_\_\_\_

Signature: \_\_\_\_\_

Return this application to:

Cyndi Casanova, Short Course Coordinator  
Food Protein R&D Center  
The Texas A&M University System  
2476 TAMU, 373 Olsen Blvd., Cater-Mattil Hall  
College Station, Texas 77843-2476 U.S.A.  
Tel: 979/847-8997; Fax: 979/845-2744  
E-mail: shortcourse@tamu.edu

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www.tamu.edu/extrusion