

**Registration**

Course Fee: (includes 12% Harmonized Sales Tax) \$2295 CDN

The course fee includes: Course notes and handouts; All refreshment breaks and lunches.

Payable by: check, international money order, Visa, MasterCard or American Express (fax 519 824 6642 or mail) to:

*Britt and Associates*  
102 Harvard Rd.  
Guelph, ON N1G 2Z2

*We will start at 8:30 Monday morning and finish at noon on Friday.*

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Name \_\_\_\_\_

Title \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

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

Email \_\_\_\_\_

Credit Card \_\_\_\_\_ Expiry \_\_\_\_\_

Cardholder \_\_\_\_\_ Signature \_\_\_\_\_

# ***Thermal Processing: Principles and Practices in Food Preservation***

***Now in our twenty-fourth year***

**December 6—10, 2010  
Guelph Holiday Inn  
Guelph, Ontario**

*Britt and Associates*

## Course Topics

Our objective in this course is to emphasize an understanding of the interrelationships that exist amongst the many discrete concepts applied in thermal process development.

### Microbiology and Thermobacteriology

- Food spoilage organisms
- Thermal effects on cells and spores
- Kinetics of microbial death in moist heat
- Survival: enumeration and probability

### Developing Processes

- Analysis of heating and cooling curves
  - Influence of experimental and processing conditions on  $f_h$  and  $j$
  - Documenting the critical factors
  - Worst case vs. statistical approaches
- Process lethality
- General method calculations
- Ball formula method in detail
  - Understanding the U-factor
  - Come-up time credit
  - Complex (broken) heating products
  - Departure from underlying assumptions
- Pasteurization process calculations
- Quality attribute calculations
- Process deviations
- Engineered or designed  $F_o$
- Processing plastics
- Sensitivity analysis
  - How do changes in the process/package/product system affect the process
  - Influence of the z-value and processing temperature on lethality

### Processing Principles

- Heat transfer fundamentals
- Still and agitated retort systems
- Temperature measurement principles
- Temperature distribution and stability
- Heat penetration principles
- Heat transfer and lethality distribution

### Tutorial Sessions

- Thermobacteriology
- Plotting heating and cooling curves
- General method applications
- Ball's formula method
- Resolution of process deviations

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### Location and Hotel Accommodation

The course will be held at the Holiday Inn Guelph Hotel & Conference Centre, 601 Scottsdale Drive, Guelph Ontario, N1G 3E7. The hotel has set aside a block of rooms at a reduced rate of \$109.99 CDN based on availability. Please make your room reservations directly with the hotel (519 836 7124) and mention that you are attending this course to ensure the reduced rate. Guelph is approximately 70 km (45 miles) from Toronto's Pearson International Airport, and airport transportation may be arranged through Red Car Service, [www.redcarservice.com](http://www.redcarservice.com), or phone 519 824 9344; fare at time of printing was \$69 CDN (one way, major credit cards accepted).

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### For more information, please contact:

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