

This course, run annually since 2018, is presented by Australian company FoodStream in conjunction with the University of Applied Sciences and Arts Western Switzerland Valais (HES-SO Valais). Foodstream has been presenting extrusion training in countries including Australia, Thailand, Norway, Chile and New Zealand for over twenty years.

FULL PLANNED PROGRAMS AVAILABLE FROM THE COURSE WEBPAGES VIA [FIE.COM.AU/EVENTS](http://FIE.COM.AU/EVENTS)

## Food Extrusion Technology

10 - 12 FEBRUARY 2020, EUROPE (SWITZERLAND)

SHORT COURSE

### Overview

Being independent of all extruder suppliers, we offer unbiased training based on the science and engineering of extrusion. This 3-day course covers the principles of extrusion, the design of extrusion processes for human foods, as well as how the formulation interacts with the extrusion process. Principles learned will be demonstrated using the extruder in the Hes-So Valais pilot plant.

The program provides a good background in general extrusion technology, but is specifically directed at extrusion of human foods. The course is relevant to both single and twin screw extrusion technology, and all types of extruded foods - breakfast cereals, snacks, texturised proteins, pasta, etc.

The course will cover topics from the basics of extruders and their configuration, through what is happening chemically and physically inside the extruder barrel, to an understanding of extruder dies and extruder instability.

### Course Content

#### Topics covered include

- › Principles of extruder configurations (single and twin screw)
- › Role of rheology in extrusion
- › Die types and effects - die design
- › Extrusion chemistry - recipe design
- › Preconditioning for extrusion
- › Product density control
- › Causes and effects of extruder instability
- › Screw, barrel, and die-plate wear
- › Extrusion troubleshooting

Examples in product formulation and the design of extrusion processes will be included to demonstrate application of the theory. Principles learned will be applied during the practical demonstration on Day 2. Important aspects of peripheral systems (eg raw materials pre-processing, preconditioning) are also covered.



DAY 2 SPONSORED BY



## Design of Food Extrusion Dies

13 - 14 FEBRUARY 2020, EUROPE (SWITZERLAND)

SHORT COURSE

### Overview

This course covers the theory and practice of designing dies for food and feed extrusion systems. The program is relevant to the production of all types of extruded products - including expanded snacks and breakfast cereals, pastas and third generation snack pellets, pet foods and aquafeeds.

Note that familiarity with extrusion technology is assumed. We recommend that participants should have completed one of our three day Extrusion programs before attending this course.

### Course Content

Topics include calculation of die conductance/pressure drop, allowing for die entrance effects, causes of product curvature, design of primary dies, and the influence of die wear.



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# Food Extrusion Technology Design of Food Extrusion Dies

FEBRUARY 2019, HES-SO, SWITZERLAND

COURSE DETAILS

## Course Venue

Institute of Life Technologies  
School of Engineering  
Route du Rawyl 64  
1950 Sion 2  
Switzerland

## Registration Fee

### FOOD EXTRUSION TECHNOLOGY

€1320 per person (approx CHF1460, GBP1190)

### DESIGN OF FOOD EXTRUSION DIES

€950 per person (approx CHF1050, GBP850 or equivalent in other currency at time of invoicing).

Registration fees are set in Euro and will vary when converted to other currencies according to fluctuations in exchange rates.

A **10% discount** applies for registrations received by **6 December 2019**

An additional **5% discount** applies for three or more course registrations received together from the same company.

An additional **10% discount** applies for those attending both courses.

The registration fee includes handout notes directly related to the presentations, as well as lunches, morning & afternoon refreshments.

**Discounted fees apply for PhD students and non-profit research organisations - see course webpage for details.**

## REGISTRATIONS CLOSE 31 JANUARY 2020

Register online via course webpage, or send participant details (name, company, address, email, ph) to [training@fie.com.au](mailto:training@fie.com.au)

## Course Enquiries

Gordon Young

Food Industry Engineering (FiE), and  
Associate of FoodStream (Australia)

+61 414 681200 [gyoung@fie.com.au](mailto:gyoung@fie.com.au)

### HES-SO Contact

Michael Beyrer [Michael.Beyrer@hevs.ch](mailto:Michael.Beyrer@hevs.ch)

**FoodStream Pty Ltd** is a private R&D company offering a complete range of technical consulting services to the processing industry, including a range of specialist training courses. Due to its unique business structure, FoodStream is able to deliver innovative, flexible solutions to the needs of processors.

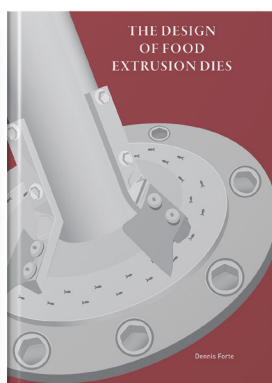
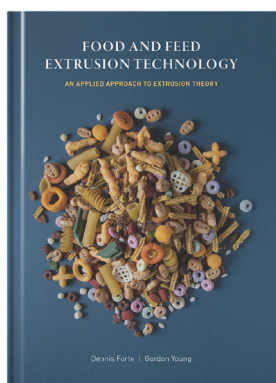
Details of services offered by FoodStream are available through our website at [foodstream.com.au](http://foodstream.com.au)

**The Institute of Life Technologies at the University of Applied Sciences and Arts Western Switzerland Valais (HES-SO Valais)** offers applied research & development. Projects are carried out by research groups of principal investigators and senior research associates. The combination of complementary scientific skills and industry experience generates unique synergies and new possibilities. HES-SO Valais has extensive pilot plant facilities including a twin-screw extruder.

## Course Presenters

The main presenter is Mr Dennis Forte, a chemical engineer with extensive experience in extrusion processing and die design, including breakfast cereals, extruded snacks, pasta, and confectionery. Dennis has worked with a wide variety of companies using extrusion technology.

Mr Gordon Young is a food process engineer who has worked in extrusion technology in both University research and with private companies. He is also experienced in a wide range of other food processing technologies, including specific expertise in drying technology and thermal processing.



## Books Published by the Course Presenters

Available to course participants at 20% discount to list price.

Or order online from [fie.com.au/books](http://fie.com.au/books) or major booksellers.

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