

## IRTA

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RESEARCH & TECHNOLOGY

FOOD & AGRICULTURE

English name: **Institute of Agro-Food Research and Technology** Finca Camps i Armet s/n  
17121 Monells

Original name: **Institut de Recerca i Tecnologia Agroalimentàries** Spain

**Agroalimentàries**

Department: Food Industries

Division: Food Technology, Product Quality, Food Safety, Functionality & Nutrition

Research organisation: Non-profit research organisation,

### Website

[www.irta.cat/en-US/Pages/default.aspx](http://www.irta.cat/en-US/Pages/default.aspx)

Related Technology Datasheet

**Title**

Brining and cooking meat products  
 Chemical pressure temperature time indicator coenzyme Q(0)  
 Dielectric microwave spectroscopy  
 Drying of non-fermented meat products  
 Electron paramagnetic resonance spectroscopy  
 Fermenting and drying of meat products  
 Fluid particle modelling  
 High pressure pasteurization of fish to prolong their freshness  
 High pressure processing  
 High pressure shellfish processing  
 High pressure thermal sterilisation  
 In pack heat pasteurization of ready to eat meals  
 Infrared temperature measurement  
 Metal-based nanomaterials in the food industry  
 Microwave heating  
 Mincing and cooking meat products  
 NMR  
 Pulsed light for microbial inactivation  
 QDS Drying maturing system for sliced products  
 Radiofrequency dielectric heating  
 Reducing meat oxidation  
 Reducing meat oxidation by dietary addition of antioxidants  
 Starch gelation by high pressure processing  
 Structure formation through pressure-induced protein denaturation  
 Thawing of food products by radiofrequency  
 Vision system for robot guidance and food inspection  
 X-ray for non-invasive food quality control

**For industry**

Food production  
 Process development  
 Consulting

**For research organisation**

Separation processes  
 Stabilizing processes  
 Conversion processes  
 Packaging  
 (Food) physics  
 (Food) biology  
 (Food) chemistry  
 Biotechnology  
 Consumer  
 Carcass quality, Quality of food of animal origin, New preservation technologies, Abiotic food safety, Biotic food safety, Ingredients & functional molecules, Proteomics & metabolomics

**For Others**

Technology transfer and dissemination

## Related Facility Datasheet

<b>Title</b>	<b>Infrastructure class</b>		
Auditorium IRTA	not applicable		
Computed Tomography IRTA	Imaging		
HP Industrial scale IRTA	High Pressure equipment		
HP Labscale IRTA	High Pressure equipment		
IRTAsim	Dryers		
Microwave heating labscale IRTA	Electro-Magnetic equipment		
Microwave heating pilot and industrial scale IRTA	Electro-Magnetic equipment		
PEF Pilot scale IRTA	PEF equipment		
Pulsed light labscale IRTA	Light equipment		
QDS system IRTA	Dryers		
Radiofrequency heating semi-industrial scale IRTA	Electro-Magnetic equipment		
<b>Technology</b>	<b>Application field</b>	<b>Equipment available</b>	
High pressure technology	Liquid, semi-liquid and solid products in a final or processing package. Meat, fish, seafood, vegetable and fruit products. Structure modification of biopolymers.	1 laboratory (2 L, 900 MPa) and 1 industrial scale (120 L, 650 MP)	
Computed Tomography	Nuclear magnetic resonance and Spectroscopy by near infrared region (NIR). Adaptation of food analysis technology. Incorporation of this technology in on-line control systems.F.i. in dry-cured ham elaboration processes; control of drying and ripening in food (fish, fruits, cheeses); in pig carcasses	80, 120 , 140 K/ 60-340 mA (X-Ray source); 18-50 cm width, 200 cm length (maximum object size)	
Radiofrequency dielectric heating	Post-baking, drying, thawing of meat or fish blocks, pasteurization, drying and decontamination of whole fruits.	1 semi-industrial scale facility (15 kW; 27,12 MHz, continuous tunnel)	
Microwave heating	Cooking, pasteurization, drying, decontamination and defrosting (particularly for the 915 MHz frequency)	3 pilot (2450 MHz & 5800 MHz, 700-1000 W) and 1 industrial scale (24 kW, 2450 MHz, continuous tunnel)	
Pulsed light	Disinfection and preservation of liquid food (cold pasteurization of liquid food such as milk, juices) and solid foods (fruits, vegetables, eggs, shell, fish and meat	1 laboratory scale facility (150x100x170 cm; sample size: 17x15x15 cm).	

QDS- Quick Dry System

Quick drying maturing system for sliced products.  
Any food product capable of being dried, mainly fermented meat products. Application to vegetables and fish products it's possible.

Pulsed electric fields

1 pilot scale facility (25 kW) available

<b>Name</b>	<b>Function</b>	<b>E-Mail</b>	<b>Expertise</b>
Angels Oliver Pratsevall	Product Quality division Coordinator	Send E-Mail	
Jacint Arnau Arboix	Food Technology division coordinator	Send E-Mail	
Jose Antonio Garcia Regueiro	Functionality & nutrition division coordinator	Send E-Mail	
Lluis Salva	Project office	Send E-Mail	PhD in Biology. Expertise on identifying funding sources and proposals preparation.
Margarita Garriga Turon	Food Safety division Coordinator	Send E-Mail	

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