Introduction

Universitat Politècnica de València (UPV) is currently considered one of the leading universities in Spain, being the single Science and Technology University in Spain to feature in all worlds’ university rankings. Founded in 1971, it comprises nearly 30,000 students among undergraduate, postgraduate and PhDs.


Find out more at: www.upv.es
Research and innovation activities

- **UPV** is among the Spanish Universities with the highest revenue from competitive research (R&D contracts, consulting and service delivery, spin-off) and a national leader in patent exploitation.

- With an **R&D activity of over 52 million euros**, UPV has participated in **113 FP7 actions** and **led 29** of them, with around 30.4 million euros of EU contribution. **In H2020**, UPV already participates in **34 projects** (Sept 2015) and **leads 5** of them.

- UPV generates new knowledge and technologies that can be transferred to companies in order to help them to increase their effectiveness and competitiveness. UPV Scientific Park concentrates, spin-off companies and start-up incubators that keep strong links with researchers, facilitating knowledge transfer and innovation.

- UPV **has state-of-the-art high level infrastructures** and facilities and a wide network of contacts in Valencia region both with regional and local administrations and with industry. Also, there are strong links with Latinamerica, mainly in Colombia, Mexico, Cuba, Argentina and Chile.

Find out more at: [www.upv.es](http://www.upv.es)
Research and teaching structures

- **18** Research Institutes
  - **14** UPV Research Institutes
  - **4** Mixed Research Institutes
  - Higher recognition
  - Postgraduate studies

- **43** University departments
  - Undergraduate and Postgraduate studies

- **29** Research Centers
  - **22** UPV Research Centers
  - **3** Mixed Research Centers
  - **1** Inter-University Research Centers
  - **3** Networking Centers

- Supporting structures
  - Research and Support Service for the promotion of research, innovation and technology transfer


Find out more at: [www.upv.es](http://www.upv.es)
Key performance indicators (YEAR 2015)

- Total R&D Projects Assigned: 813
- Contracts & Agreements with external partners: 24 M€
- Patents applications: 26
- Total R&D Economic Volume: 52.5 M€
- Competitive public funds: 28.5 M€

Best polytechnic University in Spain (according to the Academic Raking of World Universities ARWU 2015)

Best 100

Best 100

Best 200

In the field of chemistry and mathematics (ARWU 2015)

Engineering (ARWU 2015)

Universities in the world with less than 50 years

(according to the Times Higher Education THE ranking).
The AGRI-FOOD UPV CLUSTER brings together food research at the Polytechnic University of Valencia, offering comprehensive and multidisciplinary responses for the needs of the sector.

The agri-food chain is one of the most important sectors in the world economy. Particularly, in Spain is an essential element of the economic recovery. Spain is the third largest agri-food exporter in the EU and the world’s eight.

UPV creates the AGRI-FOOD cluster to favor the development of significant advancements in the food sector through joint research structures, via abundant scientific production and multiple technology transfer contracts.

Coordinated by the Research Institute of Food Engineering for Development (IIAD).
RESEARCH INSTITUTE OF FOOD ENGINEERING FOR DEVELOPMENT
Our Mission

• Public institution founded in May 1999 at the Polytechnic University of Valencia as part of the strategy to support R&D in the area of Food Science and Engineering.

• Activities are focused on a rational use of natural and higher quality resources to provide more hygienic, efficient, safer and environmentally friendly manufacturing processes. Also, to develop suitable technologies that contribute to an improvement in health conditions, well-being and wealth creation.

• To develop an intense training activity to provide technical personnel with the right skills and knowledge (PhDs and Master Studies).

• To promote the collaboration and partnership with other universities, institutions and business (Spain, Europe and Latin America).
Our Research Fields

Sustainable and efficient food industries

Novel foods, nutrition and health

Food quality and safety
Main facts

Human Resources

<table>
<thead>
<tr>
<th>Count</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>Research Staff (PhD)</td>
</tr>
<tr>
<td>15</td>
<td>Technical and Support Staff</td>
</tr>
<tr>
<td>30</td>
<td>PhD students</td>
</tr>
<tr>
<td>&gt; 60</td>
<td>Students (UG &amp; PGD)</td>
</tr>
</tbody>
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National and European Platforms

Memberships & Partnerships

Main Active Projects

R+D budget ≈ 450 K€/year

- 6 National Projects
- 3 COST actions
Research lines: Sustainable and efficient food industries

**Biodegradable active materials for food packaging**
To develop environmentally friendly food packages without toxic compounds

**Active coatings to extend the shelf-life of perishable foods**
To develop new strategies to increase the shelf-life of food products by applying active coatings

**Bioethanol production from citrus surplus and waste**
To exploit the potential of the waste generated by the processing industry of citrus juices to obtain more environmentally friendly biofuels (mainly bioethanol).

Find out more at: [www.iiad.upv.es](http://www.iiad.upv.es)
**Research lines: Sustainable and efficient food industries**

**Applications of microwave technology and high power ultrasound**

To increase productivity of food production processes and to improve energy efficiency, quality and safety of the products obtained.

**Persimmon crop valorization**

To explore alternatives uses of the waste generated in the cultivation of persimmon (leaves) and its subsequent processing/commercialization.

Find out more at: [www.iiad.upv.es](http://www.iiad.upv.es)
**Research lines: Sustainable and efficient food industries**

**Environmental management in the food industry**

- Management and reutilization of solid waste and treatment, management and recovery of wastewater from food industry

**Enology and viticulture**

- To develop strategies for treatment and fermentation processes of wine and to control its quality by applying sensors and online tools.

Find out more at: [www.iiad.upv.es](http://www.iiad.upv.es)
Research lines: Novel foods, nutrition and health

In vitro digestion studies
To develop in vitro digestion systems for population groups with gastrointestinal physiological specificity

Acrylamide reduction strategies for fried, baked and toasted foods
To gain knowledge and improve methods that can characterise and reduce the acrylamide content in foods

Probiotic fermented products from vegetable milks
To develop substitutive products for cow milk and probiotic derivatives, without lactose, milk proteins or gluten, and with high stability and sensory quality

Find out more at: [www.iiad.upv.es](http://www.iiad.upv.es)
Research lines: Novel foods, nutrition and health

Encapsulation of bioactive compounds of functional interest

To develop nano or microcapsules containing active compounds for their use as food additives, active packages or for their application in fruits and vegetable fields.

Functional foods

To develop healthier foods via the incorporation of active additives to food structures by applying food engineering techniques.

Use of unconventional flour in pasta, bread and biscuits

To develop fresh and dried pasta, crackers, breads and batters from tiger nut flour.

Find out more at: www.iiad.upv.es
Research lines: Food quality and safety

Quality of Honey and bee products
To control honey quality by analysing their physico-chemical parameters and to determine residues from harvest and postharvest treatments

Online classification and control systems
To determine and to classify product quality by analysing continuously physical and chemical properties of food products (i.e. electronic tongue, electronic nose, color...)

Sensors and smart labelling
To develop smart packaging materials able to monitor the state of food via chromogenic arrays and substances that respond to food modifications with colour changes.

Find out more at: www.iiad.upv.es
Scientific Production (2011-2015)

- Journal papers: 237
- PhD Thesis: 41
- Book Chapters: 31
- Patents: 8
- Books: 3

Yearly breakdown:
- 2011: 61
- 2012: 42
- 2013: 38
- 2014: 50
- 2015: 46

Find out more at: www.iiad.upv.es
Academic Offer

Doctorate
Science, Technology and Food Science Management

Masters Degree
Food Engineering and Science

Masters Degree
Food Safety and Management

Masters Degree
Viticulture, oenology and Management of a Viticulture Company

International Vintage Master
Higher Education in Viticulture and oenology

UPV Diploma
Specialist in Food Technology

Find out more at: www.iiad.upv.es
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UPV Campus