

## Infrastructure of the Food Packaging Research Group



### Packaging machinery

- / Vacuum chamber machine with pressure-controlled evacuation and gassing processes
- / Semi-automatic tray sealers for MAP packages and vacuum skin packaging
- / Horizontal form-fill-seal machine with gas flushing and ethanol spraying unit
- / Thermoforming packaging machine for flexible and rigid films
- / Ultrasonic sealing machine for sealing aroma protection and overpressure valves
- / Can seaming machine

### Material coating

- / Automatic film coater (Labcoater)
- / Plasma coating plant (CVD)
- / Spray application

### Packaging and material analyses

- / Permeation analyzer for oxygen and water vapor (barrier measurements)
- / Oxygen and carbon dioxide measuring devices for headspace gas analyses
- / Torque testing device for determining the opening torque of screw caps
- / Testing machines for determining the effective opening forces of packages and mechanical properties of packaging films
- / Leak test station for packages

### Processing and storage

- / Several constant climate chambers for product storage at a defined temperature, humidity, and lighting condition
- / Temperature and humidity loggers
- / Various food processing machinery (autoclave, steamer, etc.)

### Material development

- / Twin-screw extruder for filament and film production
- / Injection moulding machine
- / 3D printer

### Analytical Competencies

- / Headspace analyses: Oxygen and carbon dioxide composition, oxygen content (non-destructive), relative humidity in headspace
- / Microbiological analyses: Bacteria, mould, food spoilage and pathogenic germs
- / Chemical analyses: Oxidation, vitamin content, pH, acidity level, enzymatic analyses
- / Physical analyses: Texture analysis, rheological investigations, colour analysis, water activity, DSC
- / Sensory analyses: Sensory tests, consumer panels, specialist panels