

## New paradigms for the design, manufacturing and operation of food processing and packaging equipment

- 14:30 **Introduction to “NFPF” Project**  
Prof. Alessandro PIRONDI - Centro Interdipartimentale SITEIA.PARMA, Università di Parma  
*The project aims at developing and applying new paradigms to achieve breakthroughs in the design, construction and operation of machines and plants for the food industry. The new paradigms have been implemented to a pre-industrial demonstration level.*
- **PARADIGM 1 DEMONSTRATOR ELEMENTS**  
*Aimed at the rationalization of components and cost, increase of yield and of hygienic design*
- 14:45 **Rotary manifold used in filling machines**  
Filippo DAZZI - SIDEL  
*3D printing and bulk ceramic components for improved cleanability and longer maintenance interval*
- 15:00 **Filling machine reduced laminar flow tunnel assembled by adhesive bonding and/or Friction Stir Welding**  
Filippo DAZZI - SIDEL  
*Bonding and Friction Stir Welding for the assembly of AISI 316 carpentry as alternatives to TIG welding*
- 15:15 **Ultrashort-pulsed-laser textured tunnel and pipe outer surfaces**  
Dott. Gianmarco LAZZINI - Centro Interdipartimentale SITEIA.PARMA  
*Pulsed-laser treatment to increase surface hydrophobicity*
- **PARADIGM 2 DEMONSTRATOR ELEMENTS**  
*Aimed at modeling and interpretation of the phenomena involved in the physical treatment of food products, for a more efficient and effective automation of food processing*
- 15:30 **Corrugated surface heat exchangers**  
Prof. Fabio BOZZOLI - Centro Interdipartimentale SITEIA.PARMA  
*Experimental identification of heat exchange models and optimization*
- 15:45 **Twin-screw pasta extruders with optimized performance**  
Prof. Roberto MONTANARI - Centro Interdipartimentale CIPACK  
*Computational Fluid Dynamics (CFD) models for design and optimization*
- 16:00 **“Digital” homogenizer for milk and derivatives**  
Ing. Leonardo MAGGI - GEA Mechanical Equipment  
*CFD simulation and real-time direct control of homogenization degree*
- **VERIFICATION OF HYGIENE AND SANITARY REQUIREMENTS AND OF PROCESSES QUALITY**
- 16:15 **The evaluation of the hygienic design of food-contact materials developed in NFPF project**  
Prof. Davide BARBANTI - Centro Interdipartimentale SITEIA.PARMA  
*Laboratory tests and techniques*

**29 May 2018, 14.30 - 16:30, Pavilion 5 - GAMMA Room**

The event is free of charge, limited places available

Participants have to send an e-mail to [ricerca@confind.emr.it](mailto:ricerca@confind.emr.it)

### Laboratories and Innovation Centres



### Participating companies



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[www.npfp.it](http://www.npfp.it)