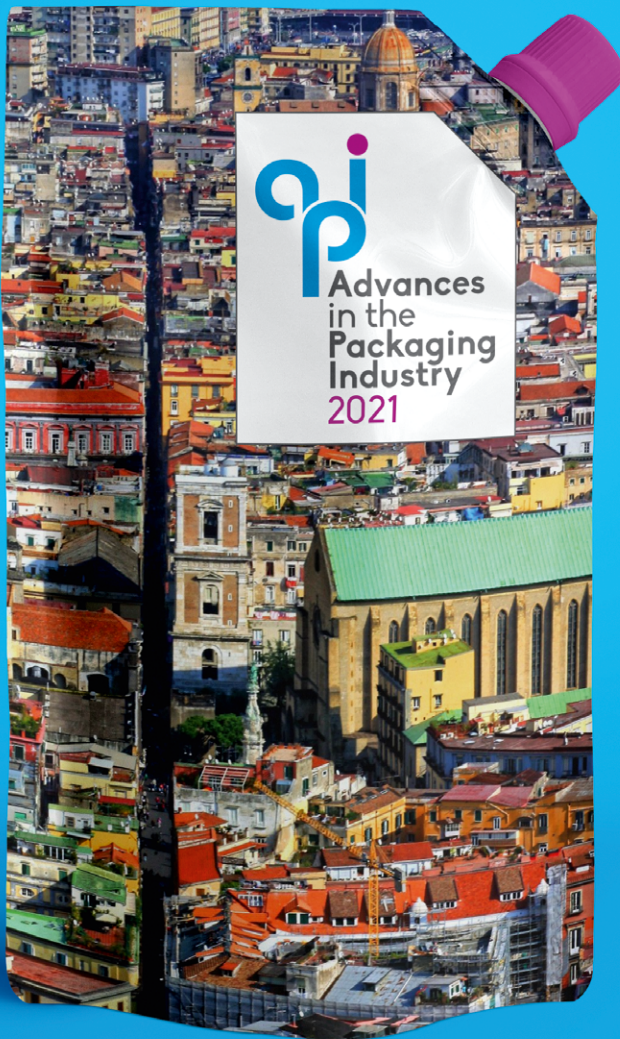


3<sup>rd</sup> International Congress  
Advances in the Packaging Industry  
"Sustainability: Products and Processes"



November 11-12, 2021  
((( Virtual Edition )))

FINAL  
PROGRAM

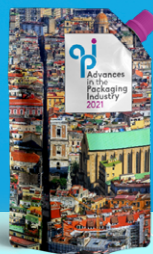


CRdC Tecnologie S.p.A.

ORGANIZING SECRETARIAT

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EVENTI E CONGRESSI

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



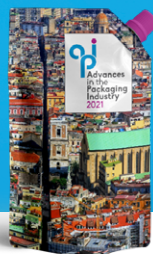
## API CONGRESS BECOMES VIRTUAL

After the success of the previous editions held in Naples in 2015 and in Milan in 2017 and after the stop due to the covid 19 pandemic which did not make the organization of the 3<sup>rd</sup> API Congress possible in 2020 as scheduled, we decided to organize it in 2021 in **VIRTUAL MODE**. After 4 years from the last edition, we believe that a debate among the experts in the field can no longer be postponed as it is necessary to share the latest updates and cutting-edge ideas related to the flexible packaging sector. Academic and industry experts will cover wide range of topics relevant to innovations and future challenges.

**We look forward to meeting you online on November 11 and 12, 2021**

Domenico Acierno  
Alberto Palaveri  
*Congress Chairs*





## ABOUT GIFLEX

GIFLEX is the Association that brings together manufacturers of flexible packaging printed in gravure and flexography, for packaging of food, pharmaceuticals, chemicals and other industrial applications. The Group is integrated into the Confindustria system, through the Associazione Nazionale delle Industrie Grafiche, Cartotecniche e Trasformatrici (National Association of Printing and Paper Processing Industries) and, in Europe, is a member of FPE (Flexible Packaging Europe). Ever since its establishment in 1985, the Group has provided a reference and support to its members, bringing a wide range of services, such as:

- Information on the technical, regulatory and marketing aspects related to flexible packaging
- The creation of technical, economic and statistical documents and studies
- The training of technical and sales staff
- Organizing events of a general nature, such as conferences and congresses, and workshops on specific topics.

Furthermore, through the activity of specialized working groups and coordinated by consultants, experts in the field, Giflex carries out a constant and continuous monitoring and updating of the legal aspects and the environmental issues affecting the production and the application fields of flexible packaging, providing insights and timely assistance to the entire membership base.

## ABOUT ETHICAL PACKAGING CHARTER FOUNDATION

The 3<sup>rd</sup> API Congress shares the values and commitments of the Ethical Packaging Charter Foundation.



## COMMITTEES

### Congress Chairs

Domenico Acierno (*Centro Regionale di Competenza Tecnologie, Italy*)

Alberto Palaveri (*Giflex, Italy*)

### Scientific Committee (Provisional)

Alessandro Acunzo, (*Foodtech, Italy*)

Giovanna Buonocore (*CNR, Italy*)

Andrea Cassinari (*Giflex, Italy*)

Andrea D'Amato (*Seda Italy S.p.A.*)

Almerinda Di Benedetto (*Università degli Studi di Napoli Federico II, Italy*)

Luciano Di Maio (*Università degli Studi di Salerno, Italy*)

Valeria Di Sarli (*CNR-STEMS, Italy*)

Jean Paul Duquet (*FPE - Flexible Packaging Europe, Germany*)

Gerardo Gambardella (*Bioplast, Italy*)

Loredana Incarnato (*Università degli Studi di Salerno, Italy*)

Giuseppe Mensitieri (*Università degli Studi di Napoli Federico II, Italy*)

Maria Rosaria Milana (*Istituto Superiore di Sanità, Italy*)

Cristina Nerin (*University of Zaragoza, Spain*)

Ciro Sinagra (*Laminazione Sottile, Italy*)

Giorgia Spigno (*Università Cattolica del Sacro Cuore, Milan, Italy*)

Marta Zaccone (*Proplast, Italy*)

### Congress Managers

Mario Mensitieri (*Giflex, Italy*)

Marco Nicolais (*Giflex, Italy*)

Italo Vailati (*Giflex, Italy*)



## PROGRAM

### November 11

09.00 - 09.10 **Welcome addresses**

Domenico Acierno and Alberto Palaveri (*Congress Chairs*)

9.10 - 09.15 **Introduction to the Ethical Packaging Charter Foundation**

Anna Paola Cavanna (*President*)

09.15 - 09.45 **KEYNOTE LECTURE 1**

Moderator: Andrea Cassinari, *Giflex - Chair of Technical Committee and Gerosa Group Quality and Regulatory Affairs, Milan, Italy*

Speaker: Helga Garmann, *Product Development Flexible Laminates Europe - Henkel Adhesive Technologies*

**Innovation in Packaging supporting EU Green Deal**

09.45 - 10.45 **SESSION 1A - ECO DESIGN, CIRCULAR ECONOMY AND ENVIRONMENTAL IMPACT**

**ORAL PRESENTATIONS**

Moderator: Mario Mensitieri, *Icimendue, Marcianise (CE), Italy*

**Recovery of Polyethylene/Polyamide multimaterial films through mechanical recycling procedure**

Espinosa Sergio

*UBE Corporation Europe S.A.U., Castellón de la Plana, Spain*

**Design and development of PE-Rich formulations for thermoforming applications**

Evangelio Laura, Hill Martin

*Dow, Packaging & Specialty Plastics, Tarragona, Spain*

**Printing ink impact on flexible packaging recycling. How printing inks can enable packaging solutions**

Hancke Lars

*Hubergroup Deutschland GmbH, Germany*

**BASF'S chemcycling project: From Plastic Waste to Virgin-Grade Products**

Neumann Paul

*BASF SE, Ludwigshafen, Germany*

10.45 - 11.00 Break

11.00 - 11.30 **KEYNOTE LECTURE 2**

Moderator: Domenico Acierno, *General Director CRdC, Italy*

Speaker: Gaetano Guerra, *University of Salerno, Italy*

**Chemical Recycling of Plastic Packaging**

11.30 - 12.30 **SESSION 1B - ECO DESIGN, CIRCULAR ECONOMY AND ENVIRONMENTAL IMPACT**

**ORAL PRESENTATIONS**

Moderator: Domenico Acierno, *General Director CRdC, Italy*

**Alternative green packaging solutions for whole and sliced fry-cured nitrates-free salami**

Principato Laura, Giombelli Andrea, Spigno Giorgia

*Università Cattolica del Sacro Cuore, Distas, Piacenza, Italy*

**Barrier paper recyclable packaging: Forming webs for tray lidding application in MAP and Vacuum Skin Packaging**

Ursino Felice, Santagostino Marco, Palaveri Alberto,

Cerri Paola, Prandini Paolo

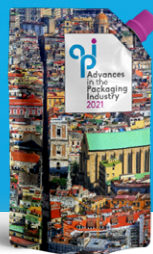
*Sacchital spa, Pregnana Milanese, Italy*

**"Natural" materials: focus on sustainability and safety**

Vittadello Andrea, Nieddu Enrico, Marcon Orianna,

Faraon Francesca, De Dominicis Emiliano

*Mérieux NutriSciences, Science Center, Resana, Italy*



## PROGRAM

### **Innovative eco-friendly active packaging approach for ethylene removal**

Ruperez David, Gracia Nicolas, Nerin Cristina, Silva Filomena  
*University of Zaragoza, Analytical Chemistry, Zaragoza, Spain*

12.30 - 12.45 Break

### **12.45 - 13.15 KEYNOTE LECTURE 3**

Moderator: Jean Paul Duquet, *Flexible Packaging Europe, Germany*

Speaker: Saskia Grünwasser, *IFEU - Institut fuer Energie und Umweltforschung, Germany*

### **Packaging sustainability and circular economy: is flexible packaging at a disadvantage?**

13.15 - 14.15 Break

### **14.15 - 14.45 POSTER SESSION 1**

#### **Innovative routes for sustainable packaging: High Performance Bio-Coatings with Antioxidants From Valorization of Olive Wastes**

Apicella Annalisa, Pant Astrid, Scarfato Paola,  
Von der Haar Daniela, Stäbler Andreas, Incarnato Loredana  
*University of Salerno, Department of Industrial Engineering,  
Fisciano (SA), Italy*

#### **Active packaging based on PP or PLA and essential oils: Antimicrobial and antioxidant properties**

Monedero Prieto María, Tone Ana Maria, Trotta Anna,  
Volpe Stefania, Torrieri Elena  
*University of Naples Federico II, Department of Agricultural  
Science, Portici, Italy*

### **PHA films on converting processes: industrialization for food flexible packaging applications**

Ascione Chiara, Scognamiglio Vincenzo, Mensitieri Mario  
*Icimendue srl, Marcianise (CE), Italy*

### **Development of innovative food packaging systems based on biopolymers and waste products**

Lunetta Erika, Cacciotti Ilaria  
*University "Niccolò Cusano", Engineering Department, Rome, Italy*

14.45 - 15.00 Break

### **15.00 - 15.30 KEYNOTE LECTURE 4**

Moderator: Almerinda Di Benedetto, *University of Naples  
Federico II, Italy*

Speakers: Luca Marmo, Enrico Danzi, *Politecnico di Torino, Italy*  
**New risks in the flexible packaging supply chain**

### **15.30 - 16.00 SESSION 2 - HAZARD AND SAFETY ISSUES IN PACKAGING PRODUCTION INDUSTRY**

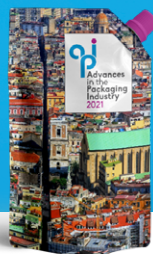
#### **ORAL PRESENTATIONS**

Moderator: Almerinda Di Benedetto, *University of Naples  
Federico II, Italy*

#### **Modelling the effect of environmental conditions on viruses' survival time in respiratory droplets on different surfaces**

Mensitieri Giuseppe, Di Novo Nicolò, Carotenuto Angelo,  
Fraldi Massimiliano, Pugno Nicola  
*University of Naples Federico II, Department of Chemical,  
Materials and Production Engineering, Naples, Italy*





## PROGRAM

### Flammable behaviour on Nylon 6,6 fibers

Portarapillo Maria, Guida Gianluca, Sanchirico Roberto,  
Danzi Enrico, Marmo Luca, Di Benedetto Almerinda  
*University of Naples Federico II, Department of Chemical,  
Materials and Production Engineering, Naples, Italy*

### 16.00 - 16.30 **SESSION 3 - ACTIVE AND PASSIVE BARRIER SOLUTIONS AND NEW FUNCTIONALITIES**

#### ORAL PRESENTATIONS

Moderator: Giorgia Spigno, *Università Cattolica del Sacro Cuore,  
Milan, Italy*

### Assessment of activity of PLA/PHB films with natural extracts for food application

Fiorentini Cecilia, Bassani Andrea, Carullo Daniele,  
Giuberti Gianluca, Dordoni Roberta, Spigno Giorgia  
*Università Cattolica del Sacro Cuore of Piacenza, DiSTAS -  
Department for Sustainable Food Process, Piacenza, Italy*

### BOBST oneBARRIER project: Development of an EVOH & Topcoat-free Transparent PE Film Solution

Copeland Nick  
*Bobst Manchester Ltd , UK*

16.30 - 16.45 Break

### 16.45 - 17.15 **KEYNOTE LECTURE 5**

Moderator: Maria Rosaria Milana, *Istituto Superiore di Sanità, Italy*  
Speaker: Eddo Hoekstra, *Team Leader at European Commission*  
**The role of the European Union Reference Laboratory for  
official controls of food contact materials**

### 17.15 - 18.15 **SESSION 4 - FOOD PACKAGING SAFETY: HEALTH AND REGULATORY ISSUES**

#### ORAL PRESENTATIONS

Moderator: Giorgia Spigno, *Università Cattolica del Sacro  
Cuore, Milan, Italy*

### Migration of oligomers from biodegradable multilayers tea cups

Canellas Elena, Vera Paula, Nerin Cristina, Dreolin Nicola,  
Goshawk Jeff  
*University of Zaragoza, Analytical Chemistry, Zaragoza, Spain*

### Identification of badge derivatives in canned food

Lestido Cardama Antía, Sendón Raquel, Bustos Juana,  
Santillana M<sup>a</sup> Isabel, Paseiro Losada Perfecto,  
Rodríguez Bernaldo de Quirós Ana  
*University of Santiago de Compostela, Analytical Chemistry,  
Nutrition and Food Science, Santiago de Compostela, Spain*

### Recyclable transparent barrier BOPP film: PVDC free

Di Bernardino Micaela, Barbieri Silvia, Magno Carmela,  
Lepori Alessandro  
*VIBAC S.p.A, L'Aquila, Italy*

### Improving food supply chain dialogue through a recently published National analytical UNI-TS 11788:2020

Andrea Cassinari  
*Giflex - Chair of Technical Committee and Gerosa Group Quality  
and Regulatory Affairs, Milan, Italy*



## PROGRAM

### November 12

#### 09.00 - 09.30 **KEYNOTE LECTURE 6**

Moderator: Italo Vailati, *Giflex, Italy*

Speaker: Dana Mosora, *Communication Manager CEFLEX*

**Flexible packaging supports sustainable consumption and production**

#### 09.30 - 10.15 **SESSION 5 - INNOVATION IN SUSTAINABLE PACKAGING MATERIALS**

##### ORAL PRESENTATIONS

Moderator: Cristina Nerin, *University of Zaragoza, Spain*

**Recovery of waste material from bio-bags for 3D printed parts**

Patti Antonella, Acierno Stefano, Cicala Gianluca,  
Zarrelli Mauro, Acierno Domenico  
*University of Catania, Department of Civil Engineering and  
Architecture (DICAR), Catania, Italy*

**New antimicrobial biodegradable films for ready-to-eat foods**

Gracia Vallés Nicolás, Ruiz Torrubia Fernando, Silva Filomena,  
Mitchell Scott, Nerín Cristina  
*Universidad de Zaragoza, Analytical Chemistry, Zaragoza, Spain*

**Resilience degree of humic acids: an indicator for valorisation as polymer additives**

Venezia Virginia, Portarapillo Maria, Bifulco Aurelio,  
Silvestri Brigida, Vitiello Giuseppe, Aronne Antonio,  
Luciani Giuseppina, Di Benedetto Almerinda  
*University of Naples Federico II, Department of Chemical,  
Materials and Production Engineering, Naples, Italy*

10.15 - 10.30 Break

#### 10.30 - 11.00 **KEYNOTE LECTURE 7**

Introduction: Loredana Incarnato, *University of Salerno, Italy*

Moderator: Luciano Di Maio, *University of Salerno, Italy*

Speaker: Paolo Vacca, *SAES Group, Italy*

**Sustainable active packaging: from materials development to product design"**

#### 11.00 - 12.00 **SESSION 6 - ADVANCES IN PACKAGING MATERIALS AND DESIGN**

##### ORAL PRESENTATIONS

Moderator: Marta Zaccone, *Proplast, Italy*

**Multifunctional films based on biodegradable blends for food packaging**

Apicella Annalisa, Pietrosanto Arianna, Scarfato Paola,  
Di Maio Luciano, Incarnato Loredana  
*University of Salerno, Department of Industrial Engineering,  
Fisciano (SA), Italy*

**An overview on PHA behaviour applied to flexible food packaging: the case of Biobarr project**

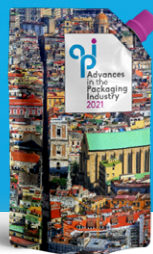
Faraldi Marianna, Prugger Raffaello  
*Tecnoalimenti S.C.p.A., Milan, Italy*

**Design and development of eco-sustainable films functionalized with antioxidant coating**

Pietrosanto Arianna, Scarfato Paola, Di Maio Luciano,  
Incarnato Loredana  
*University of Salerno, Department of Industrial Engineering,  
Fisciano (SA), Italy*

**Skinpack packaging in coated aluminum trays subjected to the Pascalization process: critical issues and solutions**

Sinagra Ciro, Romano Ernesto, Nicolais Marco, Guido Stefano,  
Preziosi Valentina, Sceral Maria Chiara, Zavaglia Emanuela,  
Martignani Fabio, Ipock Anthony Wayne  
*University of Naples Federico II, Italy*



## PROGRAM

12.00 - 12.15 Break

12.15 - 12.45 **KEYNOTE LECTURE 8**

Moderator: Valeria Di Sarli, *CNR-STEMS, Italy*

Speaker: Matteo Minelli, *University of Bologna, Italy*

**A sustainable packaging solution for oxygen barrier application based on active natural scavengers**

12.45 - 13.15 **POSTER SESSION 2**

**Explosion Behavior of Ethanol-Ethyl Acetate Mixtures in Air: Synergistic Effects**

Cammarota Francesco, Di Sarli Valeria

*Consiglio Nazionale delle Ricerche (CNR), Istituto di Scienze e Tecnologie per l'Energia e la Mobilità Sostenibili (STEMS), Napoli, Italy*

**Recycled paper in food contact articles: Analysis of targeted and untargeted contaminants**

De Felice Marco, Milana Maria Rosaria, Vanni Fabiana,

Gesumundo Cinzia, Mannoni Veruscka

*Istituto Superiore di Sanità, Dept. of Environment and Health, Rome, Italy*

**Phthalates and Nonphthalates plasticizers in FCM: a GC/MS method for listed and unlisted Phthalates and alternatives in FCM**

Gesumundo Cinzia, Padula Giorgio, Giamberardini Cinzia,

De Felice Marco, Feliciani Roberta

*Istituto Superiore di Sanità, Dept. of Environment and Health, Rome, Italy*

**Risk assessment of low level Phthalates in Polyolefins. A case study: analysis of dibutylphthalate and di(isobutyl) phthalate from a plastic FCM**

Giamberardini Silvia, Milana Maria Rosaria, De Felice Marco, Denaro Massimo

*Istituto Superiore di Sanità, Dept. of Environment and Health, Rome, Italy*

**Sustainable nanocomposite coatings for PBS substrates: the potential of ultrasonic spray deposition**

A. Cabrini, G. Rollo, GG. Buonocore, P. Cerruti, L. De Nardo, M. Lavorgna

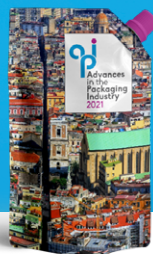
*Politecnico di Milano, Dipartimento di Chimica, Materiali e Ingegneria Chimica "G.Natta", Milano, Italy*

13.15- 13.30 **Final discussion, closing remarks and Best Poster Award**

Domenico Acierno and Alberto Palaveri, *Congress Chairs*



# 3<sup>rd</sup> International Congress Advances in the Packaging Industry "Sustainability: Products and Processes"



Napoli (Italy),  
November 11-12, 2021  
((( Virtual Edition )))



## GENERAL INFO

### VENUE

The Congress will be led as Virtual edition

### DATES

November 11 and 12, 2021

### REGISTRATION FEES (VAT 22% included)

**Registration deadline for Attendees: November 9, 2021**

**Registration deadline for oral and poster presenters: September 30, 2021**

Giflex Members/ CNR Members/ University Professors	€ 100,00
Non Members Giflex	€ 150,00
Students *	€ 50,00

*\*PhD Students, Trainees, Research fellows, whoever has a not permanent position at a University/Institution. A certification stating one of the above mentioned status should be sent together with the registration form.*

### API 2021 Registration fee includes:

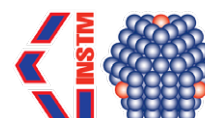
- Virtual badge
- Access to all scientific sessions, debates and interactive poster sessions
- Access to the exhibition area and to all virtual booths
- Chat and video meeting with all attendees
- Attendance certificate

In addition, each Poster Presenter will have the opportunity to present and discuss live his/her poster within dedicated poster sessions and personal virtual room, scheduled within the scientific program.

### OFFICIAL LANGUAGE

The official language of the Congress will be English.  
No simultaneous translation will be provided.

## UNDER THE AUSPICES OF



## COMMITTED TO



## WITH THE SUPPORT OF





**Napoli (Italy),  
November 11-12, 2021**  
Virtual Platform

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EVENTI E CONGRESSI

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