



SCHOOL ON APPLICATIONS OF PULSED ELECTRIC FIELDS FOR FOOD PROCESSING

January 20-23, 2014 - Zaragoza (Spain)

SHORT PRESENTATIONS

Monday 20th January (12.30-13.15h)

12.30-12.35h. Effect of Pulsed Electric Field Treatments at Various Stages During Conditioning on Quality Attributes of *Longissimus dorsi* Muscle

Arroyo C, Lascorz D, Lao JA, Gebel A and Lyng J

School of Agriculture and Food Science, University College Dublin, Belfield, Dublin 4, Ireland

12.40-12.45h. The Influence of PEF Pre-Treatment of Frozen Blueberries for the Improvement of Mass Transfer

Bobinaitė R¹, Šatkauskas S¹, Lamanauskas N¹, Pataro G² and Ferrari G³

¹ *Vytautas Magnus University, K. Donelaičio st. 58, LT-44248, Kaunas, Lithuania,*

² *University of Salerno, Via Giovanni Paolo II, 132, 84084 Fisciano (SA), Italy*

³ *ProdAl scarl, Centre on Agro-Food Productions, via Ponte don Melillo, c/o University of Salerno 84084 Fisciano (SA), Italy*

12.50-12.55h. Introducing Pulsed Electric Field Technology for Food Industry in Algeria

Yassine Bellebna¹, Tilmatine A¹, Ouiddir R¹, Amiali M² and Gashovska T³

¹ *APELEC Laboratory, Djillali Liabes Univ. of Sidi Bel-Abbes, Algeria*

² *Ecole Nationale Supérieure Agronomique, El-harrach. Algeria*

³ *Department of Electrical Engineering, University of Nebraska, Lincoln. USA.*

13.00-13.05h. Effect of Temperature and pH in Lethality of Pulsed Electric Fields

Condón-Abanto S, Álvarez I and Raso J

Tecnología de los Alimentos. Universidad de Zaragoza, c/Miguel Servet 177, 50013 Zaragoza, Spain

Tuesday 21st January (12.45-13.15h)**12.45-12.50h. Pulsed Electric Field Treatment Enhancing the Extractability and Selectivity of Polyphenols from Fermented Grape Pomace**

Brianceau S¹, Turk M^{1,2} and Vorobiev E¹

¹ *Université de Technologie de Compiègne, Département de Génie des procédés industriels, Unité Transformations Intégrées de la Matière Renouvelable (EA 4297 TIMR), Centre de Recherche de Royallieu, B.P. 20529-60205 Compiègne Cedex, France*

² *Ecole Supérieure de Chimie Organique et Minérale, Transformations Intégrées de la Matière Renouvelable (EA 4297 TIMR), Allée du réseau Jean-Marie Buckmaster, 60200 Compiègne, France*

12.50-12.55h. Use of DNA Microarrays for Transcriptome Analysis of *Escherichia coli* Exposed to Pulsed Electric Fields

Chueca B, Pagán R and García-Gonzalo D

Tecnología de los Alimentos. Universidad de Zaragoza, c/Miguel Servet 177, 50013 Zaragoza, Spain

13.00-13.05h. Application of Electrotechnologies on Food Allergenic Proteins

De Maria, S¹, Ferrari, G^{1,2}, Maresca, P² and Pataro G¹

¹ *University of Salerno, Fisciano (SA), Italy. sdemaria@unisa.it, gferrari@unisa.it*

² *ProdAl Scarl, Fisciano (SA), Italy. p.maresca@prodalricerche.it*

13.05-13.10h. Inactivation of Spoilage Yeasts in Apple Juice by UV Light and Its Combination with Mild Heat and DMDC

Gouma M, Condón S, Álvarez I and Gayán E

Tecnología de los Alimentos. Universidad de Zaragoza, c/Miguel Servet 177, 50013 Zaragoza, Spain.

Wednesday 22nd January (11.45-12.45h)**11.45-11.50h. Combination of Pulsed Electric Field Treatments with Essential Oils or Their Components to Inactivate Foodborne Pathogens**

Espina L, García-Gonzalo D and Pagán R

Tecnología de los Alimentos. Universidad de Zaragoza, c/Miguel Servet 177, 50013 Zaragoza, Spain.

11.55-12.00h. PEF Application for Cell Disintegration of Black Currant and Sea Buckthorn Berries

Lamanauskas N¹, Bobinaite R², Šatkauskas S², Pataro G³ and Ferrari G³

¹ *Lithuanian Institute of Horticulture, Lithuania*

² *Vytautas Magnus University, Lithuania*

³ *ProdAl scarl- University of Salerno, Italy.*

12.05-12.10h. Application of PEF Treatments for the Reuse of Wastewater in the Vegetable Processing Industry

López, N, Solchaga, M, Rodríguez, M, Jauregui, B and García, S

Centro Nacional de Tecnología y Seguridad Alimentaria (CNTA). Ctra. NA 134 Km. 53. 31570 San Adrián, Navarra, Spain

12.15-12.45h. Energy Pulse Systems - Pulsed Electric Field industrial applications

Redondo, L.M.R.

Lisbon Engineering Superior Institute. Rua Conselheiro Emídio Navarro, 1, 1959-007, Lisbon. Portugal.

Thursday 23rd January (11.45-12.45h)

11.45-11.50h. Dual-Porosity Model of Liquid Expression from Biological Tissue Treated with Electroporation

Mahnič-Kalamiza S^{1,2} and Vorobiev E¹

¹ *University of Technology of Compiègne, Centre de Recherches de Royallieu – BP 20529, 60205 Compiègne Cedex, France*

² *University of Ljubljana, Faculty of Electrical Engineering, Trzaska c. 25, SI-1000 Ljubljana, Slovenia*

11.55-12.00h. Moderate Pulsed Electric Field Treatment for *Saccharomyces cerevisiae* Electro-Stimulation

Mattar J^{2*}, Turk M³, Nonus M¹, Lebovka N^{1,4}, El Zakhem H² and Vorobiev E¹

¹ *Équipe TAI Laboratoire TIMR 4297, Université de Technologie de Compiègne, Centre de Recherche de Royallieu BP 20529 - 60205 Compiègne cedex, France.*

² *Chemical Engineering Department, University of Balamand, POBox 33 Amioun, North, Lebanon.*

³ *Équipe TAI Laboratoire TIMR 4297, École Supérieure de Chimie Organique et Minérale, Centre de Recherche de Royallieu BP 20529 - 60205 Compiègne cedex, France.*

⁴ *Department of Physical Chemistry of Disperse Minerals, Institute of Biocolloidal Chemistry named after F.D. Ovcharenko, NAS of Ukraine, 42, blvr. Vernadskogo, Kyiv03142, Ukraine.*

12.05-12.10h. Comparison of Juice Extraction and Sensorial Analysis between Oranges Treated with PEF and Control

Surano B, Maglietti F and Marshall G

Laboratorio de Sistemas Complejos, Departamento de Computación, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Argentina.

12.15-12.20h. Pulsed Electric Field Processing of Different Fruit Juices: Impact of pH and Temperature on Inactivation of Spoilage and Pathogenic Microorganisms

Timmermans RAH^{1*}, Nierop Groot MN¹, Nederhoff AL¹, van Boekel MAJS², Matser AM¹ and Mastwijk HC¹

¹ *Wageningen UR Food & Biobased Research, P.O. Box 17, 6700 AA Wageningen, The Netherlands*

² *Food Quality & Design Group, Wageningen University, P.O. Box 8129, 6700 EV Wageningen, The Netherlands*

12.25-12.30h. Effect of Pulsed Electric Fields on the Antioxidant Potential of Plums

Vendrell-Pacheco, M, Ribes-Ribes, N, Martín-Belloso, O and Elez-Martínez, P

Department of Food Technology, Agrotecnio Center, University of Lleida. Av. Rovira Roure 191, 25198 Lleida, Spain.

12.35-12.40h. Polyphenol and Protein Extraction from Rapeseed Stems and Leaves Assisted by Pulsed Electric Field: A New Way of the Oil Industry By-Products Valorization

Yu X, Bals O, Grimi N and Vorobiev E

EA 4297 TIMR, Technological University of Compiègne, 60205 Compiègne Cedex, France

12.40-12.45h. Effect of Pulsed Electric Field treatments on permeabilization and extraction of carotenoids from *Chlorella vulgaris*.

Luengo E, Álvarez I, Raso J

Tecnología de los Alimentos. Universidad de Zaragoza, c/Miguel Servet 177, 50013 Zaragoza, Spain.