inovine
Scientific Meetings

4th Euro Congress on

DIABETES & FOOD TECHNOLOGY

November 11-12, 2022 | Rome, Italy

Hosting Organization: **Inovine Meetings LLC**, 2C Pecan Hill Drive Clinton Mississippi, 39056 USA
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Scientific Program

Day 1

Novmeber 11, 2022

Scientific Progarm

08:30-09:00 @ **Registration**

09:00-09:30 @ **Opening Ceremony**

Keynote Forum

09:30-10:10

Title : Investigating the cellular and molecular mechanisms of diabetes-associated cancer

Jinsil Kim, Biola University, USA

10:10-10:50

Title : Clinical Significance of human placenta-derived Laennec in the treatment of Chr. Liver disease(NASH,CHC,H.H) and complicated type2 Diabetes Mellitus

Yuki Hamada, Hamada Clinic for Hepatology and Gastroenterology, Japan

10:50-11:10 Break

11:10-11:50

Title : Food freshness monitoring based on carbon dot and UV light reinforced colorimetric fish gelatin films using a custom-designed mobile application

Leyla Nesrin Kahyaoglu, Middle East Technical University, Turkey

11:50-12:15

Title : Target Chemical and microbial analysis for IQF shrimp (Penaeus monodon) based on sizes, temperatures, and food additives to extend shelf life.

Mohammad Aslam Hosain, Ningbo University, China

12:15-12:40

Title : Selection of food-associated Lactiplantibacillus plantarum for the development of innovative non-dairy fermented foods with potential against intestinal inflammation

Roberta Prete, University of Teramo, Italy

12:40-13:40 @ Restourant Da Marietto

13:40-14:05

Title : Attributes Influencing Uncontrolled DM Among Young Women of Urban Area in Dhaka City

Sharmin kaur, Bangladesh

14:05-14:30

Title : Primate care in diabetes mellitus best results

Zulma Lopez, USA

14:30-15:00

Title : Oral manifestations of Diabetes Mellitus. A systematic review

Elisabet Mauri Obradors, University of Barcelona, Spain

15:00-15:30	**Title : Therapeutic ketosis and the broad field of applications for the ketogenic diet: Ketone ester applications & clinical updates** **Raffaele Pilla,** St. John of God Hospital – Fatebenefratelli, Italy

15:30-15:50 Break

15:50-16:15 Posters

poster A	**Title : Development of desirability function to reduce the incidence of disaggregated fillets in the fish slaughter industry** **Flavia Aparecida Reitz Cardoso,** Federal Technological University of Parana Campo Mourão, Brazil
poster B	**Title : Antimicrobial properties of Nile Tilapia co-product films plus Pitomba extract** **Leila Larisa Medeiros Marques,** Federal Technological University of Parana Campo Mourão, Brazil
poster C	**Title : Control of fungal spoilage in strawberries using crude plant extracts against the fungus Botrytis cinerea** **Márcia Regina Ferreira Geraldo Perdoncini,** Federal Technological University of Parana Campo Mourão, Brazil

Panel Discussion

Awards, Thanks giving & Closing Ceremony

Day-1 Ends

Day 2

Novmeber 12, 2022

Hall-A Zoom Meeting (Hybrid Event) GMT+9:00AM to 17:00PM)

09:00-09:20	**Title: Nutritional and microbiological quality of raw cow's milk sold at the Bagnon Market (Abidjan-Yopougon), Côte d'Ivoire (Ivory Coast)** **Guillaume Ore,** Higher Technical School of Yopougon, Cote dIvoire
09:20-09:40	**Title: Impact of broccoli (Brassica oleracea L.) microgreen: Supplementation of health foods** **Pooja Bhatt,** Chandigarh Group of Colleges, India
09:40-10:00	**Title: The effect of high temperature water on the production of bioactive compounds in broccoli and bioactivity of its extracts** **Ivana Sola,** University of Zagreb, Croatia

10:00-10:20	**Title: Genome Wide Association Analysis for Grain Micronutrients and Anti-Nutritional Traits in Mungbean (Vigna radiata (L.) R. Wilczek).** **Muraleedhar S. Aski,** ICAR-Indian Agricultural Research Institute, India
10:20-10:40	**Title: The Dawn of a plant based age** **Sanjay Sethi,** Executive Director, Plant Based Foods Industry Association, India
10:40-11:00	**Title: Study on food waste and consumer behavior in Moldavian households** **Dimitrie Stoica,** Dunarea De Jos University of Galati, Romania
11:00-11:20	**Title: Effect and benefits of dietary fiber in Pre-diabetes** **Nivedhika Rai Vaid,** Chandigarh Group of Colleges, India
11:20-11:40	**Title: Application of biotechnology in modern agriculture** **Yousef Naserzadeh,** Peoples' Friendship University of Russia (RUDN University), Russia
11:40-12:00	**Title: Technology diffusion in the millet processing industry vide new product development and establishment of processing plant for Multimillet flour** **Kirti Gautam,** Amity University, India
12:00-12:20	**Title: Causes of food waste in the HoReCa Sector. Food waste prevention perspectives from Romania** **Dimitrie Stoica,** Dunărea de Jos University of Galati,Romania
12:20-12:40	**Title: Millets the future food to achieve food security** **Layam Anitha,** S V University, India
12:40-13:00	**Title: High prevalence of MAFLD among people with Type 2 Diabetes mellitus: The need for Systematic Screening** **Ayushi Rastogi,** Institute of Liver and Biliary Sciences, India
13:00-13:20	**Title: Hyperthyroidism and Pregnancy: From the basics to the latest guidelines** **Hanaa Tarek El-Zawawy,** Alexandria University, Egypt
13:20-13:40	**Title : Type 2 diabetes results from the body's ineffective use of insulin. It results from the combination of insulin resistence and beta cell failure.** **Bhavika Aggarwal,** India
13:40-14:00	**Title: DNA Speciation as a tool to curb adulteration of dairy products in Kenya** **William Kimaru,** Kenya Bureau of Standards, Kenya
14:00-14:20	**Title : Fertilizer-oil cake, Nano-biosynthesized from medicinal plants, is a source containing beneficial soil bacteria, essential elements for planting in low water areas, and a substitute for chemical fertilizers** **Niloufar Mahmoudi,** Peoples' Friendship University of Russia (RUDN University), Russia
14:20-14:40	**Title : Fortification of Wheat Bread with pate an olive oil by-product: Nutritional, Technological, Antioxidant, and Sensory Properties** **Roberta Tolve,** University of Verona, Italy
14:40-15:00	**Title : Ultrasound-assisted extraction of carotenoids from pumpkin pulp** **Francesca Blasi,** University of Perugia, Italy
15:00-15:20	**Title : A fermented beverage from donkey milk: shelf life definition according to volatile compounds** **Francesca Conte,** University of Messina, Italy

15:20-15:40	**Title : Influence of natural antioxidant in maintaining the quality of Mackerel Fillets during frozen storage** **Ester John,** University of Dar es salaam, Tanzania
15:40-16:00	**Title : Effect of ultra-high pressure homogenization on structural and technofunctional properties of egg yolk granule proteins** **Romuald Gaillard,** Laval University, Canada
16:00-16:20	**Title : TBA** **Jiyong Shi,** China
16:20-16:40	**Title : A dual-signal fluorescent sensor based on MoS2 and CdTe quantum dots for tetracycline detection in milk** **Nini Liang,** Jiangsu University School of Food and Biological Engineering, China
16:40-17:00	**Title : Physiological regulation of lignin-modifying enzymes synthesis by selected basidiomytectes** **Ana Tusokilauri,** Agricultural University of Georgia, Georgia

Panel Discussion

Awards, Thanks giving & Closing Ceremony

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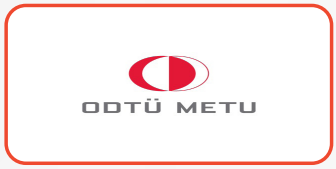
5th World Congress on

FOOD SCIENCE & TECHNOLOGY

June 12-13, 2023| London, UK

https://foodtechnology.inovineconferences.com/

Speaker Representations



inovine Scientific Meetings

4th Euro Congress on

DIABETES & FOOD TECHNOLOGY

November 11-12, 2022 | Rome, Italy

HYBRID EVENT

KEYNOTE PRESENTATION

DAY 1

Jinsil Kim
Biola University, USA

Investigating the cellular and molecular mechanisms of diabetes-associated cancer

It is well established that individuals with diabetes have an increased risk of cancer. However, the biological mechanisms underlying the link between diabetes and cancer remain not well understood. Hyperglycemia, which is a hallmark of diabetes mellitus that underlies the development of diabetic complications, could potentially contribute to different stages of the malignant process. The aim of this study was to examine the effects of hyperglycemic conditions on normal and cancer cells by characterizing their molecular response to excess glucose. Analysis of high glucose-treated colorectal cancer cells revealed subcellular compartment-dependent transcript-level expression changes in selected genes that are part of the N6-methyladenosine (m6A) modification machinery compared to control cells. In addition, transcriptome profiling of colorectal and breast epithelial and cancer cells by RNA sequencing (RNA-Seq) identified significantly upregulated and downregulated differentially expressed genes between cells under high glucose conditions and those under normal glucose conditions, providing insight into genes potentially involved in both cancer initiation and progression. Importantly, the results of differential expression analysis demonstrated notable differences in the type of transcripts and the number of differentially expressed genes associated with subcellular location, suggesting changes in RNA localization in response to elevated glucose levels. This study provides a foundation for further exploration of RNA subcellular localization, which, upon dysregulation, may lead to diabetes-associated cancer and adds to the understanding of the transcript dynamics induced by hyperglycemic conditions that may be relevant to molecular processes critical for the disease process.

Biography:

Jinsil Kim is an Associate Professor of Biological Sciences at Biola University in California, United States. She received her doctorate in Anatomy and Cell Biology from the University of Iowa and conducted postdoctoral studies at the University of Rochester, the University of California, Los Angeles (UCLA), and the National Institutes of Health (NIH). Her current research interests are in the areas of metabolic diseases and cancer. She has been serving as an editorial board member and peer reviewer for several international journals in biomedical sciences.

Yuki Hamada
HAMADA Clinic for Hepatology and Gastroenterology, Japan

Clinical Significance of human placenta-derived Laennec in the treatment of Chr. Liver disease (NASH, CHC, H.H) and complicated type2 Diabetes Mellitus

Introduction: The disturbance of iron metabolism is one of the characteristic feature of NASH, chronic hepatitis type C(CHC) and complicated Type2DM, however, as for the mechanisms of the iron deposition observed in the liver of NASH and CHC, as well as the correlation between iron metabolism and Insulin Resistance, the precise pathophysiology and dynamics are still uncertain. In many NASH and CHC cases, remarkable decline of serum ferritin as well as the improvement of T2DM was observed after treating with Laennec in accordance with the improvement of the liver dysfunction and histopathological changes in the liver. In recent years it was shown that hepcidin, principal regulator of iron metabolism exists in human placenta in high concentration. Then, we examined whether Laennec can restore the pathological background through regulating iron and glucose metabolism in NASH, CHC and other autoimmune liver disease by the action of "hepcidin inducer".

Background and Aims: Recent studies indicate that hepcidin deficiency underlies most known forms of hereditary hemochromatosis(H.H.). This implies that H.H genes encode molecules regulating hepcidin synthesis. We have previously shown that hepcidin-m-RNA was induced in dose dependent manner on applying with Laennec using primary hepatocytes and HepG2cell. Here we show that treatment with Laennec which contains 'hepcidin inducer' improves not only H.H. without repeated phlebotomy , but also NASH,CHC and other iron loading chronic liver diseases complicating with T2DM.

Clinical Implications and Suggestions: (a) NASH

We divided 68NASHcases (all liver biopsied) into two groups retrospectively. Non-Laennec-treated 30cases were treated with ordinary liver supporting therapy. Laennec-treated38cases, were treated with the infusion of 2ampules(224mg) of Laennec 1-2times/W, in addition to the ordinary liver supporting. Serum ferritin, ALT and HbA1c were measured, and liver biopsy was carried out to evaluate changes of fibrosis and iron deposition. By infusing Laennec®, serum ferritin level declined from 278.7±302.1 ng/ml (before medication)to 58.3±49.1(after)($P<0.001$) in NASH patients. Serum ALT also declined from 554.1±21.3U/L to26.5±21.3 ($P<0.001$). HbA1c level improved from6.7±1.2% to 5.5±0.9 ($P<0.01$) without changing the dose of anti-DM drugs.

When compared these results between non Laennec-treated group and Laennec-treated group, the changes observed in Laennec-treated group were significantly larger than non-treated group. In multiplex-logistic analysis, fibrosis and deposition of iron in the liver correlate significantly with the decline of serum ferritin ($P<0.01$).

(b) Chr. Hepatitis C, Autoimmune Liver Disease (PBC, AIH, AIC)

Similar results were also observed in the patient of Autoimmune Liver Disease (PBC,AIH,AIC) from the view points of the improvement in iron metabolism corelating well with the glucose metabolism.

(c)H. Hemochromatosis

47years-old male patient that developed type 2 diabetes mellitus had elevated serum ferritin level (10,191ng/ml) and a decreased hepcidin-25 level (0.5-1.6ng/ml). Liver biopsy revealed remarkable iron deposition. Chromosomal analysis revealed the presence of TfR2 mutations (c.1100T>G, c.2008_9delAC). The diagnosis of H.H.type3 was done. Although he was referred for repeated phlebotomy, the frequent venipuncture was actually intolerable for the patient. As the substitute for the repeated phlebotomy, the infusion with Laennec (6ampules, 672mg/d, 3times/w) was done for 84 months. At the end of the treatment the serum ferritin level was decreased to 506ng/ml. HbA1c also improved with the same dose of insulin (8.86.8%).

The placenta-derived Laennec which contains hepcidin inducer actually improved iron overload of H.H. Patient without repeated phlebotomy. The results suggest that Laennec may take the place of venesection for H.H. and other hepcidin-deficient diseases.

Consideration: Iron plays important roles in cellular metabolism, but, in excess, it catalyzes the formation of free radicals leading to oxidative stress and cell damage. The discovery of hepcidin and its role in iron metabolism could lead to the development of novel therapies for H.H.

Although liver is very important organ for iron homeostasis, the clinical usage of liver-origin-hepcidin has not yet been tried. The placenta-derived Laennec which contains “hepcidin inducer” actually improved iron overload of H.H. patient without repeated phlebotomy, and it also ameliorated glucose metabolism complicating with NASH and other chronic liver diseases (AIH,PBC,AIC CHC)by normalizing iron and glucose metabolism.

Conclusion: The decline of serum ferritin levels by infusing with Laennec observed in NASH and CHC was simultaneously accompanied by the improvement of the liver fibrosis and inflammation as well as the glucose metabolism.

It is possible that Laennec derived from placenta extract containing hepcidin-inducing material, can bring about the improvement of NASH, CHC ,H.H and other iron loading chronic liver disease by suppressing ROS-production of iron-origin. Laenne is capable of taking the place of repeated phlebotomy . The results also suggest that Laennec may take the place of venesection for H.H. and other hepcidin-deficient diseases.

In addition, The improvement of type 2 diabetes complicating with NASH by the administration with Laennec suggests the importance of iron regulation on refractory type 2 diabetes which shows the presence of hyperferritinemia .

Biography:

1975 Graduate from School of Medicine, Hokkaido University. 1975-1977 Medical trainee at Osaka Medical Center for Cancer and Cardiovascular Disease, Osaka, Japan. 1977-1989 Lecturer, Gastroenterology and Hepatology Department, Hokkaido University. 1988-1989, 1991 Research Fellow, Faculty of Life Science (Prof.F.L.Bygrave), Australian National University. 1989-1998 Manager, Gastroenterology section, National Nishi-Sapporo hospital. 1998-Present President, HAMADA Clinic for Hepatology and Gastroenterology.

Leyla Nesrin Kahyaoglu[1*]
[1]Department of Food Engineering, Middle East Technical University,Turkey

Food freshness monitoring based on carbon dot and UV light reinforced colorimetric fish gelatin films using a custom-designed mobile application

The objective of this study was to develop colorimetric anthocyanins-doped fish gelatin (FG) films for food freshness monitoring. In this sense, ultraviolet (UV) light irradiation (365 nm) and carbon dots (CDs) were tested as the potential crosslinking agents in the FG matrix. The effect of crosslinkers on the optical, surface, structural, barrier, and mechanical properties of FG films was investigated. Incorporation of CD into the FG matrix under UV irradiation improved the examined properties of FG films. The colorimetric responses of FG films against ammonia vapor were studied to simulate the food spoilage and determine the ammonia sensitivity of the films. Among the tested films, UV-treated FG films containing 100 mg/l (FG-UV-CD100) indicated the best properties. Later, the color difference of FG-UV-CD100 films was observed to correlate well with microbial growth and TVB-N release in skinless chicken breast samples. At the same time, a custom-designed smartphone application (*SmartFood*) was created to be used with the FG-UV-CD100 film for quantitative estimation of food freshness in real-time. The proposed food freshness monitoring platform reveals a great potential to minimize global food waste and the outbreak of foodborne illness.

Biography:

Leyla Nesrin Kahyaoglu received the Bachelor of Science in Food Engineering from Middle East Technical University, Ankara, Turkey in 2007 and, the Master of Science degree in Food Engineering from Middle East Technical University in 2009. Later, she earned the Ph.D. degree in Agricultural and Biological Engineering from Purdue University, West Lafayette, USA in 2017. During her Ph.D., she focused on the development of optical fiber-based micro and nanoscale biosensors. She is currently working as an Assistant Professor in the Department of Food Engineering at Middle East Technical University. Her main research interests involve biomaterials, nanomaterials and food packaging applications.

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HYBRID EVENT

SPEAKER PRESENTATION

DAY 1

Target Chemical and microbial analysis for IQF shrimp (*Penaeus monodon*) based on sizes, temperatures, and food additives to extend shelf life.

Mohammad Aslam Hosain
Ningbo University, China

Preservation and quality control for extended shelf life is very challenging for Individual Quick frozen (IQF) black tiger shrimp (*Penaeus monodon*) products. In raw or frozen conditions, chemical and biological agents can instantly or slowly mediate catalytic activity, oxidation, or astaxanthin activity. In addition, temperature fluctuation incites the chemical and microbial spoilage of products. We conduct experiments on different sizes of head-less shell-on shrimp (6/8, 16/20, 41/50) frozen at different temperatures (-25°C, -30°C, and -35°C) for additives treated (H2O2, E-451, and NaCl) and non-treated finished goods with 20% protective ice-glazed. We stored the product at -18°C±2 and took the samples at intervals of months (1, 6, 12, 18, 24, and 28) to study chemical and biological reactions and investigate product shelf life. We followed ISO/IEC 17025:2017, BAB standard ELISA Screening (TMSOP/C) to analyze CAP, AOZ, AMOZ, AHD, SEM, TTC, CV, LMG, and TMSOP/M method to analyze TPC, *E. coli, Vibrio spp., Salmonella spp.* and *Staphylococcus spp*. The Chemical changes were significantly influenced by freezing temperature and treatment additives but not shrimp size. The effects of the biological parameters were at an acceptance limit of up to 18 months for all conditions. However, during 24 months at -25°C shrimp showed biological degradation, but temperatures (-30°C, -35°C) were found acceptable. The effects of biological parameters (except for *Vibrio spp., Salmonella spp.*) were not at the acceptance limit for all conditions at 28 months. Therefore, the freezing temperature and additives played crucial rule in extending the shelf life of shrimp products besides quality.

Biography:

Mohammad Aslam Hosain completed my Master's studies at Ningbo University, China, in Fisheries resources and Bachelor's in Marine Fisheries from Bangladesh with excellent results. He have published 4 papers in reputed journals, and 02 are under review. Currently working in the Europe-based export-oriented food processing industry for 7 years in Bangladesh and associated with aqua-farming for 2 years in china. He have had significant experience in fisheries resources, food processing, probiotic feeding technology, laboratory work, microbial analysis, molecular science, quality control, hygiene sanitation, standardization compliance audit (HACCP, BRCGS, and BAP), team building, and customer communication.

Selection of food-associated *Lactiplantibacillus plantarum* for the development of innovative non-dairy fermented foods with potential against intestinal inflammation

Roberta Prete†
Co-authors: Francesca Dell'Orco†, Federica Montagano, Giusi Sabatini, Natalia Battista and Aldo Corsetti
†These authors contributed equally to this work
Faculty of Bioscience and Technology for Food, Agriculture and Environment
University of Teramo, Teramo, Italy

Fermented foods have regained popularity in Western diets, for their health-promoting potential, mainly related to the role of Lactic Acid Bacteria during the fermentation process. Among them, Lactiplantibacillus (Lpb.) plantarum strains, widely used as starter cultures in the production of fermented foods, showed the potential to affect host health. Our studies aimed to investigate selected Lpb. plantarum strains, isolated from fermented foods, to face oxidative stress and related inflammatory damage at intestinal level and their application as multifunctional starter cultures to produce innovative non-dairy fermented foods with antioxidant and anti- inflammatory properties. For these purposes, the specific ability of each strain to modulate ROS levels in response to either oxidative or inflammatory stress and to restore inflammation via IL17/IL23 axis in an inflamed intestinal cell model was investigated. Subsequently, two selected strains have been applied in a lab-scale fermentation to produce fermented beverages using cereal and legume flours. Thus, we examined their antioxidant potential and their ability to modulate the expression of pro- and anti-inflammatory cytokines (IL8, IL10) and to trigger IL12/IL23 and IL17/IL23 axis at intestinal level. IL12, IL17 and IL-23 are pro-inflammatory cytokines with an active role in the pathophysiology of chronic inflammatory disorders, thus targeting these axis could be a considerable way to treat intestinal inflammatory diseases. Our results highlights the beneficial contribution of fermented foods through their microbial components (as Lpb. plantarum species) and their suitable application in non-dairy products fermentation to develop vegetable-based fermented foods as an alternative strategy to ameliorate intestinal inflammation.

Biography:

Roberta Prete has completed her PhD in 2018 achieving the title of PhD Europaeus in Food Science with a project entitled "Food-associated Lactobacillus plantarum: an insight into functionality" at the University of Teramo, where she conducted also postdoctoral studies, in food microbiology with a particular focus on fermented foods and food-associated lactic acid bacteria with probiotic properties. She is a Junior Researcher at the University of Teramo. She has published around 20 papers in reputed journals, more than 25 proceeding to international/national conferences and has been awarded several times by diverse International Scientific Committees.

Primary Care in Diabetes Mellitus

Zulma Lopez M.D

Diabetes Mellitus Certified Member of American Diabetes Association and American Diabetes Educator Association, USA

Using case control study method all diabetes mellitus type 2 patients in the office ages 21 y/o and older were included in the program . Pt with hx of ASTHMA , CANCER, and steroid use patient were excluded. Informed consent was obtained . Patients included were first ask to write down in table form template : dextrose 6 times a day, nutrition, social inputs such as occupation stressor, smoking drugs, alcohol use , mental issues, exercise if any for seven days the analyze data with patient, educate pt about result obtained from the data and finally make a plan adjusted to their life style . Patients were encouraged to make commitment to decrease their Hga1c for at least 3 points. Patients were also encouraged to call our call center any time when they have any doubts/questions A multidisciplinary team composed Social workers, Nutritionist, pharmacists, clinical lab, nurses, psychologist front desk. was also involved. With this team member we had the opportunity to caked patients weekly, meetings were hold to suggest any adjustment or changes on each patients. If any changes or adjustments need to be approach pt was called and follow on that. Our final results indicated that patients indeed decreased their hga1c and were very happy my approach : " You have diabetes if you want but you don't have too". Getting the right numbers will decrease the risk of of complications of DM.

Uptodate 2022

MEDSCAPE 2022

Diabetes Mellitus Education and Management 2019 edition

Harvard medical School update on DM 2022 (VIRTUAL) received credits after completion.

Biography:

Lopez has completed MD degree from San Juan Bautista Medical School and Diabetes certification in management and education. Also trained in the Medtronic insulin pump device and Harvard medical school updates in DM every 3 years. Pt has work as medical director in health insurance company as many things develop DM program for doctors to follow and also trained them . Medical director in a clinic developing also a DM program. Offer presentation about DM program and trained PCP

Oral manifestations of Diabetes Mellitus

Elisabet Mauri Obradors
University of Barcelona, Spain

Background: Diabetes Mellitus has become a global epidemic and presents many complications, usually proportional to the degree and duration of hyperglycemia. The aim of this systematic review was to investigate the different oral manifestations associated with Diabetes Mellitus.

Material and Methods: A MEDLINE search for "Diabetes Mellitus and oral manifestations" was performed. A further search was conducted for "diabetes" and its individual oral manifestation. Inclusion criteria were as follows: human clinical studies with a minimum of 30 patients; studies published in relevant scientific journals between January 1998 and January 2016. Nineteen studies fulfilled the inclusion criteria and were analyzed, assessing the strength of scientific evidence according to recommendations made by the Centre for Evidence-Based Medicine, Oxford (OCEBM), which permits adequate assessment of prevalence studies.

Results: A total 3,712 patients (2,084 diabetics) were included in the studies reviewed. Of the 19 studies analyzed, 4 were longitudinal studies and 15 cross-sectional studies. Periodontal disease, periapical lesions, xerostomia and taste disturbance were more prevalent among diabetic patients. An association between diabetes and caries and mucosal lesions proved positive in 5 out of 10 studies.

Conclusions: Despite multiple oral manifestations associated with DM, awareness of the associations between diabetes, oral health, and general health is inadequate. It is necessary for doctors and dentists to be aware of the various oral manifestations of diabetes in order to make an early diagnosis.

Biography:

Elisabeth Mauri Obradors has completed her graduate in dentistry in 2011, completed the research master's degree in dental sciences in 2012 and finally in 2017 she obtained her PhD in 2017 from University of Barcelona. She is collaborating in Department of Dentistry and Stomatology in Master of Medicine, Surgery and Oral Implantology. Since 2013 she has published papers in reputed journals and has participated in several congresses.

Therapeutic ketosis and the broad field of applications for the ketogenic diet: Ketone ester applications & clinical updates

Raffaele Pilla
St. John of God Hospital Fatebenefratelli, Italy

It has been recently shown that nutritional ketosis is effective against seizure disorders and various acute/chronic neurological disorders. Physiologically, glucose is the primary metabolic fuel for cells. However, many neurodegenerative disorders have been associated with impaired glucose transport/metabolism and with mitochondrial dysfunction, such as Alzheimer's/Parkinson's disease, general seizure disorders, and traumatic brain injury. Ketone bodies and tricarboxylic acid cycle intermediates represent alternative fuels for the brain and can bypass the rate- limiting steps associated with impaired neuronal glucose metabolism. Therefore, therapeutic ketosis can be considered as a metabolic therapy by providing alternative energy substrates. It has been estimated that the brain derives over 60% of its total energy from ketones when glucose availability is limited. In fact, after prolonged periods of fasting or ketogenic diet (KD), the body utilizes energy obtained from free fatty acids (FFAs) released from adipose tissue. Because the brain is unable to derive significant energy from FFAs, hepatic ketogenesis converts FFAs into ketone bodies-hydroxybutyrate (BHB) and acetoacetate (AcAc)-while a percentage of AcAc spontaneously decarboxylates to acetone. Large quantities of ketone bodies accumulate in the blood through this mechanism. This represents a state of normal physiological ketosis and can be therapeutic. Ketone bodies are transported across the blood-brain barrier by monocarboxylic acid transporters to fuel brain function. Starvation or nutritional ketosis is an essential survival mechanism that ensures metabolic flexibility during prolonged fasting or lack of carbohydrate ingestion. Therapeutic ketosis leads to metabolic adaptations that may improve brain metabolism, restore mitochondrial ATP production, decrease reactive oxygen species production, reduce inflammation, and increase neurotrophic factors' function. It has been shown that KD mimics the effects of fasting and the lack of glucose/insulin signaling, promoting a metabolic shift towards fatty acid utilization. In this work, the author reports a number of successful case reports treated through metabolic ketosis.

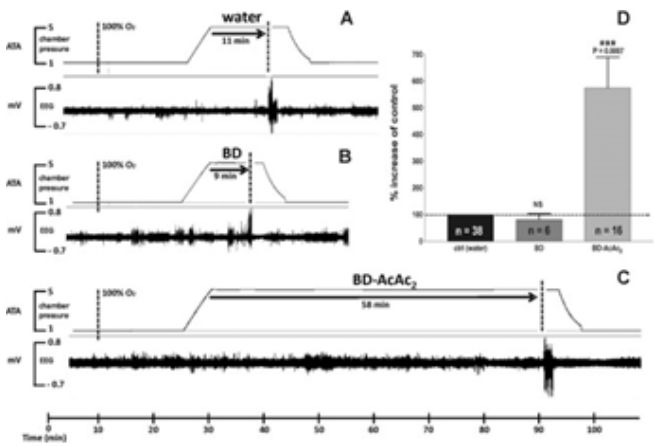

Figure 1: Ketone Ester significantly increased resistance against Central Nervous System Oxygen Toxicity seizures (D'Agostino D.P. et al., 2013 Am J Physiol Regul Integr Comp Physiol. 304(10):R829-36).

Biography:

Raffaele Pilla, Doctor Europaeus, received his Master's degree in Pharmacy at G. d'Annunzio University in Chieti-Pescara, Italy in 2005, where he also served internships at the Cell Physiology Laboratory and Molecular Biology Laboratory. Prior, he was an Erasmus Student at Faculté de Pharmacie de Reims in Reims, France. He received his Doctor Europaeus in 2010 from Pitié-Salpétrière Institute in Paris, France. Also in 2010, he received his Ph.D. in Biochemistry, Physiology, and Pathology of Muscle at G. d'Annunzio University in Chieti-Pescara, Italy. He was hired as a Postdoctoral Scholar in the Department of Pharmacology and Physiology at the University of South Florida in Tampa, on two research grants funded by the Office of Naval Research (US Navy) and Divers' Alert Network. He has written and lectured widely worldwide. He has been involved in ongoing research at the University of South Florida with the use of ketone esters.

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HYBRID EVENT

POSTER PRESENTATIONS

DAY 1

Development of desirability function to reduce the incidence of disaggregated fillets in the fish slaughter industry

Flávia Aparecida Reitz Cardoso[1]*, Thaise Pascoato de Oliveira Almeida[1], Renata Hernandez Barros Fuchs[2], Camila sa Silva Venâncio[3], Leila Larisa Medeiros Marques[3] and Adriana Aparecida Droval[2]

[1]Post-Graduation Program of Technological Innovations (PPGIT), Federal University of Technology Parana, Campo Mourao Brazil

[2]Post-Graduation Program of Food Technology (PPGTA), Federal University of Technology - Parana (UTFPR), Campo Mourao, Brazil

[3]Department of Food Engineering and Chemical Engineering, Federal University of Technology - Parana (UTFPR), Campo Mourao, Brazil

Fish is a food of high nutritional value and has been gaining market in recent years, with tilapia being the most cultivated fish in Brazil, responsible for 57% of national fish production. Freshness and firmness are the main characteristics evaluated at the time of consumption and commercialization in fish, directly influencing customer satisfaction with the product, a problem that the industries had been suffering for some time due to the presence of disaggregated fillets in their production line. With this, the present work aimed to characterize the disaggregated fillets for further development of a desirability function that aims to reduce PSE meat in Nile tilapia in processing industries from the quality parameters used in pre-slaughter management. For the development, Nile tilapia from a fish slaughterhouse located in western Paraná, in the interior of Brazil, were used. The study was carried out in three stages. The first aimed to characterize the disaggregated fillet; the second determined the influence of the year's season on its incidence, and the third developed a desirability function to reduce the incidence of disaggregated fillets in the fish slaughtering industry. From the data obtained, it is believed that the disaggregated fillets are similar to the PSE meats because in the characterization of the fillets, the average pH value and L* value for the normal fillets were 6.20 and 52.20 and for the disaggregated fillets were 5.89 and 55.40, which are believed to be associated with antemortem stress, as with poultry and swine.

Biography:

Flávia Aparecida Reitz Cardoso pursing Ph D in Chemical Engineering from the State University of Maringá. She is currently a full professor at the Federal Technological University of Paraná. She has published 51 articles in specialized journals and 64 papers in conference proceedings. She has 19 book chapters and eight published books. She supervised seven master's dissertations and co-supervised three and supervised 31 scientific initiation works and 60-course conclusion works in Computer Science, Mathematics, and Education. She has received five awards and honors. Between 2004 and 2020, she participated in 8 research projects, of which she coordinated 7. She currently participates in 11 research projects, of which she coordinates 6.

Antimicrobial properties of Nile Tilapia co-product films plus Pitomba extract

Casarin, Stefanie Calisto; Venancio, Camila da Silva; Cardoso, Flávia Aparecida Reitz; FuchsRenata Hernandez Barros; Marques, Leila Larisa Medeiros*

Federal Technological University of Parana Campo Mourão, PR, Brazil.

Post-harvest diseases are usually caused by fungi. Such diseases affect some types of fruit, such as papaya, often causing the loss of these fruits and causing damage to industries. Anthracnose and peduncular and black rot are diseases caused by a set of fungi. The most common are *Collectotrichum gloeosporioides* and *Fusarium spp.*, which can lead to total degradation and loss of quality in fruits such as Hawaiian papaya. One possibility to deal with these fungi would be the optimized coating of the fruits with films added with plant extracts, whose purpose is to add to the coating some characteristic that prevents the proliferation of fungi that cause post-harvest diseases. To reduce the damage caused by postharvest diseases from fungi such as *Collectotrichum gloeosporioides* and *Fusarium spp*., in vitro tests were carried out to investigate the antimicrobial properties of previously characterized films from the skin of Nile tilapia (Oreochromis niloticus. Concentrations of 2.5, 5 and 10% of pitomba (*Talisia esculenta*) bark and seed extract were added to these films. In vitro tests indicated that 10% of pitomba seed extract showed greater antimicrobial activity, indicating its use in the prevention of diseases such as anthracnose and peduncular and black rot that can attack papaya.

Biography:

Leila Larisa Medeiros Marques has completed a degree in Pharmacy - Qualification in Industry at the Federal University of Paraná (2001), a Master's in Biotechnology at the State University of Londrina (2004) and a PhD in the Postgraduate Program in Pharmaceutical Sciences at the State University of Maringá (2016), area of concentration in Biologically Active Natural and Synthetic Products. She has experience in the field of Biochemistry, Microbiology and Phytochemistry. She is currently a professor at the Federal Technological University of Paraná (UTFPR) and she serves as the undergraduate director at UTFPR.

Control of fungal spoilage in strawberries using crude plant extracts against the fungus *Botrytis cinerea*

Ana Rita Zulim Leite[1], Flávia Aparecida Reitz Cardoso[2*], Amanda Correia Gardenal[1], João Palazzo de Mello[3], Leila Larisa Medeiros Marques[1], Marcia Regina Ferreira Geraldo Perdoncini[1]

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Strawberry is susceptible to the fungus Botrytis cinerea degradation due to its high metabolic activities, moisture content, sugars, and acids. This fungus is the main necrotrophic pathogen that causes damage to plant tissues. B. cinerea, being genetically variable, acquires resistance to the chemicals used for control. Thus, the study evaluated the conservation of strawberries treated with crude plant extracts (barbatimão, sibipiruna, guarana, and catuaba) against fungal deterioration. The extracts showed a minimum inhibitory concentration of 0.125; 0.0156; 0.25 and 0.0312g/mL for barbatimão, sibipiruna, guarana and catuaba, respectively. Strawberries treated with the extracts were observed for the onset of visible fungal deterioration during 11 days compared to the control. The fruits were analyzed on days 0, 3, 6, and 9 for weight loss, soluble solids, titratable acidity, and pH variation. Treatment with sibipiruna showed lower values of mass loss. Values obtained from the analysis of soluble solids showed that only control and barbatimão extract had no significant changes, as well as days 0, 6, and 9 for pH values for all samples. Samples treated with barbatimão and catuaba showed lower values for the color parameters L and a*. The principal components analysis did not show a strong correlation between the variables, either positively or negatively. In this way, the extracts become alternatives for strawberry conservation by inhibiting the action of the fungus Botrytis cinerea, increasing the conservation time, and maintaining physicochemical characteristics close to the control.

Biography:

Márcia Regina Ferreira Geraldo Perdoncini has completed her PhD at the age of 36 years from State University oh Maringá. She has published 15 articles in journals and 79 papers in conference proceedings. She has 5 book chapters. She is a professor of microbiology and biochemistry for the Food Engineering, Food Technology and Chemical Engineering course at the Federal University of Technology of Paraná.

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DAY 2

Nutritional and microbiological quality of raw cow's milk sold at the Bagnon Market (Abidjan-Yopougon), Côte d'Ivoire (Ivory Coast)

Guillaume Ore
Higher Technical School of Yopougon, Côte d'Ivoire
Sylvie Assoi, Peleforo Gon Coulibaly University, Côte d'Ivoire

Pathogenic microorganisms may be present in milk, from sick cow or from contamination by handlers, *Streptococcus* causing udder infection (mastitis), *Brucella (Brucellosis)*, *Mycobacterium bovis* and *tuberculosis (Tuberculosis)* are examples.

The milk thus obtained at milking and sold as is, or only refrigerated, is raw milk.

In reality, milk is rarely sold raw, its conservation being extremely limited: it undergoes treatments (skimming, heating, processing technology, etc.).

However, in Yopougon (the largest municipality among the ten ones in Abidjan, our economic and administrative capital town), many people prefer to consume the raw cow's milk sold at the market (report from the town hall). They give as an argument to preserve all the nutritional qualities of raw milk that the heat would degrade.

There is local consumption; of course, we also want to produce milk locally to avoid the high import costs. We want to check adulteration with water, preservatives, added solids such as addition of starch, etc.

Thus, the first objective focused on the literature review which deals with the nutritional importance of milk and the health risks due to the proliferation of microorganisms in raw cow's milk.

The second objective dealed with the results of our study followed by discussion in order to propose more efficient milking methods for the consumption of nutritious and safe raw cow's milk, according to the requirements of Codex Alimentarius.

The manuscript can be assessed for the improvement of raw milk hygiene in the interests of the shepherds, milk consumers, teachers, the community decision makers, etc.

Biography:

Guillaume Ore is Ivorian and teacher of food engineering (Chemistry-Biochemistry-Microbiology and Food Technology) since 1994 and holder of a postgraduate diploma in food sanitation since 2005. He is also holder of a Master's Degree in Food biotechnology in Russia since June 2017. He chose that sector because he is passionate of research in food safety, human nutrition and the preservation of our environment in order to preserve a normal life expectancy of Humans. Moreover, to have done internships in Germany (1997-1998), Japan (2009) and India (2012), he always wanted to work in international, multicultural, multiracial societies.

Impact of broccoli (*Brassica oleracea L.*) microgreen: Supplementation of health foods

Pooja Bhat
Chandigarh Group of Colleges, India

Microgreens (seedling of vegetable and herbs) are gaining popularity as a new culinary ingredient due to their high nutrient content. Various health foods developed from the best variant (broccoli microgreens) in terms of nutritional and biochemical composition of microgreens (Fresh, Juice and Powder). Eight products including five from fresh microgreens, two from microgreens juice and one from powder of microgreens were developed. The developed products were organoleptically evaluated by semi expert panel of 10 judges using 9-point hedonic rating scale. All the health products i.e. missi roti, cooked vegetable and dal, salads, juice blend, flavoured milk and food sprinkler supplemented with broccoli microgreens were organoleptic highly acceptable. In term of fresh broccoli microgreens supplementation, 25% in missi roti, 5 and 7.5% in cooked vegetable and dal, 30 and 40% in russian and tofu salad was highly accepted. Incorporation of fresh broccoli microgreen juice at 30% in juice blend and flavoured milk was highly acceptable. Powdered broccoli microgreens supplemented at 40 % of in regular spice mix was highly accepted. Overall nutritional composition in broccoli microgreens supplemented health foods had significantly ($p<0.05$) high content of vitamins C, β-carotene content and minerals namely calcium, zinc, iron, potassium and magnesium when compared to the control product. Thus the present study gives critical insight for selection of microgreens for complete nutrition.

Biography:

Pooja Bhatt, working as Assistant Professor (Nutrition and Dietetics) at Chandigarh Group of Colleges, Punjab, India. Currently,she is also hosting a Zee Punjabi Cookery Show as Nutritionist Host " Swaad Aa Gaya 2, Sehat de naal". She has been awarded with first prize in Oral Presentation at one day International seminar on "opportunities and Challenges in Food Processing Sector", TNAU, 2021 and also awarded with best oral presentation at International conference on Clinical Nutrition and Dietary Lifestyle, Bangalore, India. She actively participated in various conferences, seminars, events, workshop and nutrition talks. She is a lifetime member of the Indian Dietetics Association (IDA). She also presented poster presentation at International Conference on Food Security Challenges & Opportunities at TIET, Patiala, India.

The effect of high temperature water on the production of bioactive compounds in broccoli and bioactivity of its extracts

Ivana Sola
University of Zagreb, Croatia

The aim of this research was to study the influence of high temperature (HT) water stress on the mass share of bioactive compounds and the biological effects of extracts of young broccoli (Brassica oleracea L. convar. botrytis (L.) Alef. var. cymosa Duch.) with 6-8 true leaves in order to define resistant and susceptible variables, and to single out those that could potentially be used as biomarkers of HT water stress in broccoli. Using different spectrophotometric assays and RP- HPLC method that we developed, we analysed total phenols, flavonoids, flavonols, tannins, proanthocyadinins, phenolic acids, hydroxycinnamic acids, soluble sugars, glucosinolates, chlorophylls a and b, carotenoids, lycopene, porphyrins, vitamin C, flavonols quercetin and kaempferol, hydroxycinnamic acids p-coumarinic, ferulic and sinapic, and antioxidant capacity of broccoli extracts by ABTS, DPPH and FRAP methods. The results revealed that HT water stress significantly changed mass share of chlorophyll a, lycopen, carotenoids, porphyrins, proanthocyanidins, soluble sugars, hydroxycinnamic acids, flavonols, glucosinolates, vitamin C, quercetin, kaempferol, p-coumarinic, ferulic and sinapic acid in broccoli. The change in antioxidant capacity of broccoli extracts was recorded with DPPH assay only. Among the total of 23 tested parameters, resistable were 7, reduced 7, and increased 9. The parameters with the most pronounced change under HT water stress in young broccoli were total carotenoids, soluble sugars and sinapic acid.

This study was conducted in scope of the HRZZ project IP-2020-02-7585 “Indirect Effect of Global Warming on Mammals Physiological Parameters via High Temperature-Stressed Plant Diet (TEMPHYS)“.

Biography:

Ivana Šola, Assist. Prof. works in Laboratory for Phytochemistry, her main scientific interest is plant specialized metabolism plasticity (e.g., changes in concentration of different metabolites, synthesis of new compounds, genotype and/or phenotype adjustment (ecotype and/or yield, respectively), bioactivity and bioavailability changes), and possibilities like the use of a specialized metabolites profile as an indicator of stress in the environment, boosting of specific metabolites in order to produce a value-added plant food, and screening of specialized metabolism changes for prediction models. She teaches and/or holds practicum in phytochemistry, plant anatomy, plant bioactive substances, and molecular biology of plants.

Genome Wide Association Analysis for Grain Micronutrients and Anti-Nutritional Traits in Mungbean (Vigna radiata (L.) R. Wilczek).

Muraleedhar S. Aski
ICAR-Indian Agricultural Research Institute, India

Mungbean (Vigna radiata (L.) Wilczek) is an important food legume for sustainable food production and human nutrition due to its nitrogen fixation capabilities, highly digestible, palatable and nutrient-dense seed. However, minimal breeding research has been conducted to improve the nutritional quality of the seed for biofortification, considering the dependence of a large vegetarian population dependent on mungbean. So, to dissect the genetic architecture of grain micronutrients and anti-nutritional factors in mungbean, a total of 145 diverse genotypes were evaluated for grain iron and zinc concentration along with grain phytic acid and tannin content at IARI, New Delhi. The grain iron ranged from 48.2 mg/kg to 121.85 mg/kg with a mean of 74.15 mg/kg, while the grain zinc varied from 8.6 mg/kg to 61.05 mg/kg and had a mean of 32.20 mg/kg. The grain phytic acid content ranged from 1.5 mg/g to 14.85 mg/g with a mean of 7.35 mg/g while for grain tannin content the range was observed as 2.14 g/100g to 6.25 g/100g with a mean value of 3.8 mg/100g. The study generated 14,447 genome wide SNPs by employing next generation sequencing (NGS) based genotyping by sequencing (GBS) methodology. Population admixture analysis revealed the presence of four different ancestry among the 127 genotypes and LD decay of ~57.6 kb physical distance was observed in mungbean chromosomes. Association mapping analysis revealed that a total of 20 significant SNPs were shared by both GLM and Blink models associated with grain micronutrient and anti-nutritional factor traits, with Blink model identifying 35 putative SNPs.

Biography:

Muraleedhar Aski has completed his PhD at the age of 26 years from IARI New Delhi. He is the Senior Scientist at Division of Genetics, ICAR-IARI. He has the 12 years of experience in food grain legumes. He is working in food grain legumes like chickpea, mungbean and lentil breeding, nutritional quality and molecular genetics. He has published more than 35 papers in reputed journals.

The Dawn of a Plant Based Age

Sanjay Sethi

Executive Director, Plant Based Foods Industry Association ,India

According to "Plant Based Revolution," a report published by the Plant Based Foods Industry Association (PBFIA) and The Insight Partners, the Indian Plant-Based Foods Industry is predicted to expand from 0.27 billion USD to 5 billion USD during the next decade. The plant-based foods business is receiving significant investment, but it is critical to ensure that goods are not overly processed in order to acquire consumer acceptance. By incorporating Ayurvedic ingredients, which are well-known among Indian customers, and working toward clean label solutions in the long run, companies can increase consumer acceptability. Another option to enter into the enormous Indian consumer market is through the HoReCa industry. The hospitality industry will increase the familiarity of the novel products among consumers and open up the industry to unprecedented levels. PBFIA has appealed to 100,000 major city restaurants to include vegan menu options too. PBFIA, a CEO-led apex body, is a representative of the plant based foods industry in India, providing a cohesive voice to promote the growth and development of the sector. With 73 members currently, the association works towards four major work streams of Policy Advocacy, Supply Chain, Innovation and Investment.

Biography:

Sanjay Sethi is a world renowned impact investment leader and sustainable food expert. Over 3 decade long illustrious career, Mr Sethi set up winning integrated supply chains in Africa, Middle East, Europe, Eastern Europe, South Asia and in India. A leader of cross functional teams, he rolled out large supply chain, sustainable food production, irrigation, agri infrastructure projects. He is currently the Executive Director of Plant Based Foods Industry Association (PBFIA), a CEO-led body representing and building a strong foundation for India's plant based food companies which produce high-quality plant-based alternatives to dairy and meat products. Previously he was on the Board of Sustainable Rice Platform, an initiative of UN Environment and International Rice Research Institute. He was also a Steering Committee Member of Global Agribusiness Alliance of World Business Council for Sustainable Development, Geneva. He undertook many infrastructure projects like setting up India's first Mega Food Park and India's first Free Trade Warehousing Zone. In his previous role as Director Sustainability at $3 Billion Phoenix Group Dubai, he accelerated the Agri commodities business in the direction to more sustainable practices by setting up new sustainable multi-country integrated projects. He was CEO Food and Beverages for an African MNC (Export Trading Group - ETG) and headed Jain Irrigation's Africa Operations previously. His career included stints at National Dairy Development Board and Unilever

Awards:- He was awarded "The Africa Food Prize 2013", "The Sustainable Initiatives Award 2017", "Chief Sustainability Officer of the Year Award" in 2018 and 2019 and "Lifetime Achievement Award 2018 for Food Security". Felicitated on behalf of the Ruler of Ras Al Khaimah (UAE) and Government of Nigeria for contributions to food security

Education:- B.Sc. Agri (CCS Haryana Agricultural University, Hisar), MBA from Institute of Rural Management Anand (IRMA) and Sustainability Leadership Course from Yale Business School in partnership with World Business Council for Sustainable Development .

Study on food waste and consumer behavior in Moldavian households

Dimitrie Stoica, Angela-Eliza Micu*, Maria Basarab, Adrian Micu, Maricica Stoica
Dunărea de Jos University of Galati, Romania

Food waste is one of the biggest challenges today. It can occur at every point of the agri-food supply chain, from farm to final consumption (mainly at the public food services and households). The households are responsible for a significant amount of food waste, being influenced by a number of factors (e.g. household size and type, improper shopping planning, cooking, age, gender, education, professional status, income, etc.). The aim of this study was to carry out an investigation in the Moldavian households in order to identify the opinion of consumers regarding food waste. To do this, a number of 200 respondents from Republic of Moldova were interviewed using an online designed survey. A vast majority of surveyed participants (90%) makes shopping lists, following the need for consumption; they do not buy on impulse. The most of respondents (about 91%) prepare meals at home. Another interesting aspect identified is the fact that they do not throw away uneaten food, more than half (52%) saving the leftover for feeding domestic animals, while 48% reuse of the leftover to prepare new food or freeze it to consume later. As expected, the surveyed Moldavians appear to waste less food.

Biography:

Dimitrie Stoica is PhD Student at Doctoral School of Socio-Human Sciences, Domain Management, within „Dunărea de Jos" University of Galati - Romania. He is coauthor for 3 book chapters published by Springer (first author for two of these). He presented/published around 28 papers in international conferences, and published around 8 papers (two ISI articles with impact factor 9.29 and 4.46; and 6 BDI articles). He is also coauthor for a patent application, receiving numerous awards (gold and silver medals, special prizes at invention saloons). A big part of his research was focusing on food engineering, food waste management, food packaging.

Prevalence and Benefits of Dietary fiber in Pre-diabetes

Nivedhika Rai Vaid
Chandigarh Group of College, India

Prediabetes is an intermediate condition of high blood sugar level, the range in prediabetes is above normal but below the diabetes threshold. It is a condition for which we need to take deep consideration and should focus on eliminating this at its primary stage. Prediabetes is a state of high risk for increasing diabetes with yearly variation rate of 5%-10%. Since the year 2000, IDF International Diabetes Federation has been measuring the prevalence of diabetes nationally, regionally and globally. It was estimated that almost half of all people 49.7 % living with diabetes are undiagnosed. These figures were expected to increase to 693 million by 2045. Among those with prediabetes, 58.9 % converted to diabetes. There are several studies that observe prediabetic can be reversible by implementing few lifestyle and dietary modifications and with concerns to diabetes prevention with a relative risk reduction of 40% to 70% in adults with prediabetes. Dietary fiber intake is associated by lowering the prevalence of diabetes, abdominal obesity, hypertension, metabolic syndrome after multivariate adjustment including obesity. Prediabetes is commonly an asymptomatic condition, before the beginning of diabetes there is always presence of prediabetes. The high-fiber diet also lowered the area under the curve for 24-hour plasma glucose and insulin concentrations, measured every two hours by 10% and 12%, respectively. The high-fiber diet reduced plasma total cholesterol concentrations by 6.7% triglyceride concentrations by 10.2%, and very-low-density lipoprotein cholesterol concentrations by 12.5% .The intention of this review is to describe the fact that prediabetes can be reversible by modifying the dietary habits and the change in the lifestyle of the individual.

Biography:

Nivedhika Rai Vaid completed Ph.D. In Food science and Nutrition working as Assistant Professor in CGC Landran.

Application of biotechnology in modern agriculture

Yousef Naserzadeh[1*], Niloufar Mahmoudi[2]
[1,2]Department of AgroBiotechnology, Peoples' Friendship University of Russia (RUDN University), Russia.

Ever since humans started farming for the first time, crops have always been attacked by bacteria, viruses, insects, weeds, and worms. The expansion of modern biotechnology techniques is considered a suitable tool for this constant struggle. The history of biotechnology in the production of food products and their processes is very long. Gene transfer, cloning, genetic markers, artificial insemination, embryo sex determination, and pregnancy diagnosis are important biotechnology techniques. Production of plant products with special ingredients, production of plants with low need for fertilizers and poisons such as pest-resistant soybeans, production of plants with low need for water and resistance to salinity, heat, and cold, and production of transgenic plants is one of the most important applications of biotechnology in plants. be Production of transgenic animals, production of high value and superior animals using the cloning method, control of nuisance animals and preparation of genetic maps, eugenics and increasing the productive capacity and reproduction of livestock, production of hormones and medicines needed by humans using Transgenic animals and preparation of genetic maps of organisms in order to identify and control genes affecting growth are among the most important applications of biotechnology in animals. The environmental applications of biotechnology include the production of biofuels, the production of absorbable plastics, the biological treatment of sewage and the biotechnological treatment of water sources, and the production of biological weapons.

Biography:

Yousef Naserzadeh, PhD in Agricultural Biotechnology. from RUDN University in Moscow. Russia. Biotechnologist, inventor and author of several books. Article in the fields of food industry. Agriculture, nano and quarantine pests. Chairman of several scientific conferences and events

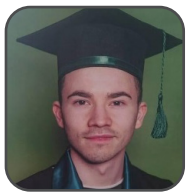
Technology diffusion in the millet processing industry vide new product development and establishment of processing plant for Multimillet flour

Kirti Gautam
Amity Institute of Food Technology, Amity University, India

Issues related to food securities and malnutrition is a global issue nowadays. In the last decade, environmental change, massive increase in population and economic decline has badly affected food security. To overcome such issues, there is a need to change the food framework to accomplish food and sustenance security. Millets, one of the most nutritious grains, can possibly be assumed as a critical part in the battle against malnutrition and food insecurity. Millets contain rich amount of macro and micronutrients, carbs, protein, dietary Fiber, lipids, and phytochemicals etc. Being a high source of various micronutrients and phytochemicals millets play vital roles in several immunological activities in the body. Millets also have various nutraceutical properties in the form of antioxidants which prevents different health issues such as lowering blood-pressure, chances of heart disease, cancer prevention and cardiovascular diseases, diabetes, decreasing tumor cases etc. Millets are alkaline based grain and alkaline based diet are advisable to achieve optimal health. Low bioavailability of minerals such as zinc, iron etc cause serious health issues in infants and young children in many developing countries. In order to enhance the nutritional value of food, enhance the digestibility and bioavailability of nutrients with decreased amount of anti-nutritional factors, various food processing techniques are developed. The project focuses on the objective of developing specific ways to identify these crops as an important food and introduce the millets as a nutritious food which will eventually help in the fulfillment of the nutritional need of global population and combat malnutrition.

Biography:

Kirti Gautam has completed her MTech (Food Technology) at the age of 32 years from Amity University, and She has 11 years of working experience in Food manufacturing industry, Training and consultation sector. She is also a food safety trainer and have delivered 600 trainings on food safety across the country. She has published a knowledge report on Food and nutrition and a handbook on Food safety for basic catering in hindi language.



Causes of food waste in the HoReCa Sector. Food waste prevention perspectives from Romania

Dimitrie Stoica, Angela-Eliza Micu*, Petru Alexe, Alexandru Căpățînă, Nicoleta Cristache, Adrian Micu, Maricica Stoica
Dunărea de Jos University of Galati,Romania

Food waste has a dramatic negative influence not only on the food security, environment and economy, but also on the future of humanity, being an urgent global challenge. A large generator of food waste in Romania is the HoReCa (Hotels, Restaurants, and Catering) sector. The Europeans waste 12 million tons of food in the HoReCa sector each year, ranging from 6 to 12 kg per capita in Romania (Fusions reports). This research explores the causes of food waste generation in the HoReCa services, aiming to identify the most encouraging opportunities for food waste management in the HoReCa from Romania. A number of 100 HoReCa units located in Romania were interviewed using a specially designed survey. Causes of food waste generation in the HoReCa studied units include: excessive products buying, ill-suited storage conditions, overlooking the foods expiry date, cooking of too much foods, investing in low-quality raw products, staff qualification deficiencies, customer plate wasting. In this context, the strategies to manage food waste should address both the way HoReCa units work, and the customers' behavior related to food consumption.

Biography:

Dimitrie Stoica is PhD Student at Doctoral School of Socio-Human Sciences, Domain Management, within Dunărea de Jos University of Galati - Romania. He is coauthor for 3 book chapters published by Springer (first author for two of these). He presented/published around 28 papers in international conferences, and published around 8 papers (two ISI articles with impact factor 9.29 and 4.46; and 6 BDI articles). He is also coauthor for a patent application, receiving numerous awards (gold and silver medals, special prizes at invention saloons). A big part of his research was focusing on food engineering, food waste management, food packaging.

Millets the future food to achieve food security

Layam Anitha

Faculty of Food Technology, Department of Home Science, S V University, India.

Millets serve as one of the best medium to fulfil today's requirement of world-over organizations striving to achieve sustainable food security. These drought resistant crops have many advantages over other cereals such as rice and wheat in terms of their utilization for food, feed, bio-ethanol, bio-films. Millets are coarse cereals, grown seasonally in India and have tremendous advantages in the health and nutritional field. Millets have an alkalizing food effect, and are a mood calming food. Researchers have found these cereals are going to give favourable results in long term illness like Cancer, Type II Diabetes, disorders of the heart and stomach. Millets are rich source of manganese, potassium, iron and phosphorus. Finger millet has 38 times more calcium, foxtail millet has twice the amount of protein, whereas pearl millet has ten times more iron, two times more dietary fibre and five times less fat than rice. In addition, pearl millet has proved to be good source of omega 3 fatty acids and thiamine. Millets are still processed by traditional methods in the semi-arid regions of the world. Malting can be used to enhance the quality of millets. It also helps in the formulation of complementary foods and infant diet. Processing such as soaking, germination improved protein digestibility and bioavailability, decreased polyphenol, tannin, and phytic acid and malting increased the fibre, carbohydrate, moisture and protein content and availability of minerals in different millets. Millet flours are Gluten-free, least allergenic, digest slowly and have a low glycemic index. Many researchers studied gluten free products made with different composite flours. But commercialization of these gluten free products is still on a lower scale. Technical superiority and acceptance of sensory attributes are two main problems faced by earlier researchers while developing gluten free products. Composite flours which are made up of only millet flours, are studied less when compared to other composite flours which included other cereals, pulses, protein powders and fruits and vegetable powders. Thus, present study is an attempt to develop gluten free multi millet biscuit. Processing of millets has an effect on physical, functional and rheological characteristics thereby affecting the outcome of gluten free multi millet biscuit.

Biography:

Layam Anitha completed her Ph D in Nutrition Sciences from Sri Padmavathi Viswa Vidyalayam, Tirupati, AP, India. She worked as Assistant Professor, Human nutrition, Hawassa University, Hawassa, Ethiopia; Associate Professor, Department of Microbiology and Food Science and Technology, GITAM University, Visakhapatnam, AP, India; Associate Professor, Clinical Nutrition Track, Department of Rehabilitation and Health Sciences, Princess Nora University, Riyadh, KSA. She has published more than 25 papers in reputed journals, and to her credit has a national patent, guided Ph D, M Phil and Master students, published more than 50 papers in national and international seminars/conferences. Her areas of research interest are Product development, Food Packaging, Clinical Nutrition and Micronutrient assessment.

High prevalence of MAFLD among people with Type 2 Diabetes mellitus: The need for Systematic Screening

Aayushi Rastogi
Institute of Liver and Biliary Sciences, India

Non-alcoholic fatty liver disease (NAFLD) is a condition commonly associated with type 2 diabetes mellitus (T2DM), which further progresses to advanced liver fibrosis and cirrhosis at much faster rates than the general population. The current nomenclature has been revised, and the term metabolic-associated fatty liver disease (MAFLD) has been proposed. Based on the new terminology, limited evidence is available for the prevalence of MAFLD. The present study assessed the prevalence of MAFLD among T2DM in primary healthcare settings using transient elastography as a screening tool. A cross-sectional study was undertaken between June 2021 to May 2022 in known diabetic patients seeking medical care in primary healthcare clinics in Delhi, India. A mobile screening unit with trained research staff administered a brief questionnaire to assess the personal and family medical history, behavioural risk factors, anthropometric measurements, and blood samples for biochemical testing. MAFLD was defined as the presence of hepatic steatosis with a controlled attenuation parameter value of ≥248dB/m. Univariable and multivariable analysis was done to determine the factors associated with MAFLD using STATA v-14 with statistical significance considered at p-value <0.05. A total of 1674 diabetic participants were screened with a mean age of 52±11.4 years, and 55% were males. The prevalence of MAFLD was 71.9% (95%CI:69.7%-74.1%) among people with diabetes. Hypertension, hypothyroid, dyslipidaemia, overweight and obesity, raised waist circumference, and uncontrolled glycaemic levels were important predictors of hepatic steatosis among people with diabetes. There is a high prevalence of MAFLD in people with T2DM in primary care settings, which makes it a compelling argument for promoting the public health agenda for systematic screening for T2DM patients for MAFLD.

Biography:

Aayushi Rastogi is pursuing a Doctor of Philosophy in Epidemiology in the Department of Epidemiology, Institute of Liver and Biliary Sciences. She is trained in clinical research and biostatistics from the Public Health Foundation of India. She has been involved in various activities to prevent and control viral hepatitis across the country. She has played an important role in creating IEC material to raise awareness about viral hepatitis B and C. Her area of interest includes epidemiology of communicable and non-communicable diseases, capacity building and lifestyle interventions. She has more than 25 publications in national and international journals to her credit.

Hyperthyroidism and Pregnancy: From the basics to the latest guidelines

Hanaa Tarek El-Zawawy
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American Hospital Dubai, United Arab Emirates

Normal thyroid function during pregnancy is required for optimal maternal & fetal health. The diagnosis of pregnant women with hyperthyroidism parallels that of non-pregnant women and men, however, hyperthyroidism during pregnancy presents unique problems and sometimes fatal outcomes. Also, the occurrence of transient gestational thyrotoxicosis is a quite frequent condition that occurs in many pregnancies and is 10 times more common than other causes of hyperthyroidism during pregnancy. Thus, screening for hyperthyroidism in susceptible pregnant women is of utmost importance.The diagnosis of hyperthyroidism during pregnancy is quite challenging as the signs and symptoms of thyrotoxicosis usually mimic the manifestations of normal pregnancy. Moreover, the laboratory profile of thyroid functions during pregnancy mimics that of hyperthyroidism.The American Thyroid Association guidelines settled the tools for the diagnosis and management of patients with hyperthyroidism during pregnancy.The prevention and early management of hyperthyroidism during pregnancy before the development of comorbidities are the goals of preventive efforts.

Biography:

Hanaa Tarek El-Zawawy is an Endocrinology Consultant at American Hospital Dubai and an Assistant Professor of Endocrinology at Alexandria University Faculty of Medicine where she had her doctorate degree in Endocrinology in May 2015 at the age of 31 years. El-Zawawy is a member of the Egyptian Society of Endocrinology and Obesity as well as the European Society of Endocrinology. She participates in many national & international conferences and workshops every year.She authors 17 peer-reviewed publications. She was cited 51 times. Also, she is an active reviewer in many international journals and receives a yearly award from the publisher “WILEY” for her contributions.

Type 2 diabetes results from the body's ineffective use of insulin. It results from the combination of insulin resistance and beta cell failure.

Bhavika Aggarwal
India

Type 2 diabetes mellitus is an expanding global health problem, closely linked to the epidemic of obesity. Individuals with T2DM are at high risk for microvascular complications (including retinopathy, nephropathy and neuropathy) and macrovascular complications (such as cardiovascular comorbidities), leading to hyperglycaemia and individual components of the insulin resistance (metabolic) syndrome. Environmental factors (such as obesity, an unhealthy diet and physical inactivity) and genetic factors contribute to the multiple pathophysiological disturbances which are responsible for impaired glucose homeostasis in T2DM. Insulin resistance and impaired insulin secretion remain the core defects , other pathophysiological abnormalities contribute to the dysregulation of glucose metabolism. The multiple pathogenetic disturbances present in T2DM dictate that multiple antidiabetic agents, used in combination, will be required for maintaining normoglycaemia. The treatment should not only be effective and safe but also improve the quality of life. Several novel medications are in development but the greatest need is for agent that enhance insulin sensitivity, halt the progressive pancreatic β-cell failure that is characteristic of T2DM and prevent the microvascular complications.

Biography:

Bhavika has completed her post-graduation in dietetics and public health nutrition in 2019 from Institute of Home Economics. She is graduated from Lady Irwin college.She did her internship from BLK Super Speciality Hospital . She worked as a dietician in Dr. shikha's nutrihealth. Currently she is working with Fitpass.She has participated in Super Speciality Camp organized by Lush Ayurveda. She is a diabetes educator, sports nutritionist.

DNA Speciation as a tool to curb adulteration of dairy products in Kenya

William Kimaru
Kenya Bureau of Standards, Kenya

Dairy farming plays a critical role in the economic well-being of Kenya. It is a sub-sector of agriculture that contributes greatly in terms of employment creation, provision of income, source of alternate products like manure as well as improving human nutrition through products such as yoghurt, cheese, UHT milk and kefir. Poor milk safety constitutes a persistent public health risk in Kenya. Poor milk composition, microbial contamination and adulteration is a constraint to Dairy sector development. With cases of species substitution in products such a meat being reported extensively in Kenya, it is important to have the necessary capacity to conduct species of origin testing of dairy products to ascertain their authenticity of labelling and ensure public safety and economic wellbeing of farmers are not threatened by unscrupulous players within the value chain. DNA based speciation techniques offer a promising platform to curb the cases of food fraud of dairy products in Kenya. The factors to consider are test their robustness in different dairy products and ease of developing field based testing solutions for ease of identification across the country.

Biography:

William Kimaru has a Master's Degree in Biochemistry for Nanjing Agricultural University, China and currently a Laboratory Analyst at the Kenya Bureau of Standards Testing Department in Microbiology and Molecular Biology Laboratory. Areas of Research interest include food speciation, bacterial quorum sensing and quorum sensing inhibition, bacteriocin isolation and development of smart food packaging.

Fertilizer-oil cake, Nano-biosynthesized from medicinal plants, is a source containing beneficial soil bacteria, essential elements for planting in low water areas, and a substitute for chemical fertilizers

Yousef Naserzadeh, Niloufar Mahmoudi*
Peoples' Friendship University of Russia (RUDN University), Russia

ANano fertilizer refers to a product that delivers nutrients to crops in one of three ways. The nutrient can be encapsulated inside nanomaterials such as nanotubes or nonporous materials, coated with a thin protective polymer film, or delivered as particles or emulsions of nanoscale dimensions. Owing to a high surface area to volume ratio, the effectiveness of Nano fertilizers may surpass the most innovative polymer-coated conventional fertilizers, which have seen little improvement in the past ten years. Ideally, nanotechnology could provide devices and mechanisms to synchronize the release of nitrogen (from fertilizers) with its uptake by crops; the nano fertilizers should release the nutrients on-demand while preventing them from prematurely converting into chemical/gaseous forms that cannot be absorbed by plants. This can be achieved by preventing nutrients from interacting with soil, water, and microorganisms, and releasing nutrients only when they can be directly internalized by the plant. This fertilizer is one of the fertilizers that, due to the use of oilseed cake (oilseed cake), has a very high staying power in the soil and can remain in the soil around the roots for 3 to 4 months and maybe even longer. This high staying power makes the effects of this fertilizer permanent on the plant and in the medium and long term, it improves the soil and makes the soil more arable day by day, and increases its agricultural value. Having all the conditions and effective factors mentioned, this fertilizer is the best option to deal with the salinity of the bed soil, and all the mentioned items can be done in the best possible way easily and with the lowest cost.

Biography:

Niloufar Mahmoudi PhD in Agricultural Biotechnology from RUDN University. Moscow, Russia.

Fortification of Wheat Bread with patè, an olive oil by-product: Nutritional, Technological, Antioxidant, and Sensory Properties

Roberta Tolve
Department of Biotechnology, University of Verona, Italy

In recent years, the interest in the recovery and recycling of residues resulting from plant food processing has risen. Often food processing by-products are sources of bioactive compounds that can be reused as valuable ingredients. During the olive milling process, different by-products rich in phenolic compounds and fiber are generated. Among these, there is the "patè" generated by a recently introduced multiphase decanter technology for olive oil industrial extraction. Due to its potential richness in bioactive compounds, the patè inclusion in two types of Italian bread (ciabatta and pagnotta) on an industrial scale has been investigated. The physicochemical properties of control and fortified bread, along with the nutritional and sensory characteristics of the obtained bread, were evaluated. A significant effect of patè inclusion on both the two bread types in terms of aw, moisture, volume, density, cell size, cell density, alveolar percentage and crumb uniformity was observed. Total phenolic compounds and the antioxidant capacity of bread samples, evaluated by FRAP (ferric reducing ability of plasma) and ABTS (2,2'-azino-bis (3-ethylbenzothiazoline-6-sulfonic acid)) assays, were higher in fortified bread as well as the total dietary fiber. In addition, the overall acceptability of fortified bread was comparable with or even higher than the control samples. The obtained results suggest that patè could be an appealing ingredient used to obtain fortified bread on an industrial scale regardless of type. Bread fortified with patè could be a source of fiber and polyphenols compounds with higher accepted sensorial characteristics.

Biography:

Roberta Tolve is a temporary researcher at the Department of Biotechnology, University of Verona. Her research activity has focused on several issues of food quality, food processing, and food packaging, besides the shelf-life evaluation of many food products, from a sensory and chemical-physical point of view and recently lies in nutraceuticals, functional foods, and chemistry of natural matrices/product. She is author/co-author of more than 30 scientific publications, (book chapters, research articles, reviews, and congress presentations) with more than 400 citations.

Ultrasound-assisted extraction of carotenoids from pumpkin pulp

Francesca Blasi, Nicola Pinna, Federica Ianni, Lina Cossignani
University of Perugia, Italy

Pumpkin, a vegetable belonging to Cucurbitaceae family, is considered a functional food and a medicinal plant due to the presence of many phytochemicals with interesting health effects. The aim of the research was to select the best extraction technique for the recovery of carotenoids from Cucurbita moschata pulp. Unconventional methods, i.e. ultrasound-assisted extraction (UAE) and microvawe-assisted extraction (MAE), were employed and a comparison with a traditional method, i.e. maceration, was carried out. A binary (hexane:isopropanol, 60:40 v/v) and a ternary (hexane:acetone:ethanol, 50:25:25 v/v/v) mixtures were tested. The binary mixture, a temperature of 45 °C, a solid:liquid ratio of 1:20, and a time of 30 minutes were chosen as the best extraction conditions. The extraction yield (%), the antioxidant activity evaluated by different in vitro assays (ABTS, DPPH, and FRAP) and an analytical characterization by RP-HPLC-DAD of extracts were determined. HPLC-MS was also carried out for structure confirmation of bioactives. In addition to the two main peaks corresponding to β-carotene and α-carotene, the chromatographic profiles of extracts highlighted the presence of other interesting bioactive compounds (violaxanthin, neoxanthin, antheraxanthin, lutein, but also mono- and diesterified structures). All the obtained extracts showed interesting antioxidant properties. The obtained results suggest that UAE for 30 min at 45 °C was the most successfully extracting technique for carotenoids extraction from pumpkin pulp in respect to the other methods (MAE and MAC), taking into consideration all considered data and their correlation. A similar approach is in progress for the extraction and analysis of pumpkin waste (peel, seeds, filaments).

Biography:

Francesca Blasi, PhD, is a researcher at the Department of Pharmaceutical Sciences of the University of Perugia (Italy). She is professor of Food Chemistry. She is member of the Italian Chemical Society, and referee of many international journals. She was visiting professor at the University of Valencia (Spain). Her research topics: chemistry and analysis of foods. Her main expertise: analysis of foods by chromatographic (HRGC, HPLC) and spectrophotometric techniques; unconventional techniques for extraction of bioactives from agri-food waste. She serves as an Editorial Board Member of Processes journal (ISSN 2227-9717). Metrics overview (Scopus): 81 documents; 1413 citations; 24 h-index.

A fermented beverage from donkey milk: shelf life definition according to volatile compounds

Francesca Conte* and Concetta Condurso
Department of Veterinary Sciences, University of Messina, Italy

Donkey milk as "pharmafood" is suitable for fermented milks production due to its high lactose content. A fermented beverage from donkey milk was obtained during two experimental trials, using the strains Lactococcus (Lc) lactis subsp. cremoris, Lactococcus (Lc) lactis subsp, lactis, Leuconostoc mesenteroides subsp. cremoris, Lc lactis subsp lactis biovar dyacetilactis, Streptococcus thermophilus and Debaryomyces hansenii (Chr. Hansen, Denmark). The product microbial flora and volatile compounds were studied from 0 to 21 days (at 4°C), together pH values and titrable acidity (TA) (expressed as g of lactic acid/100 g); the product shelf life has been defined. Lactic bacteria (LAB) counts were high up to 21 days; yeast showed lower tolerance at refrigeration. pH mean values were 4.01; a slight variation occurred up to 21 days. The mean value of MT was 0.57 and its trend was like pH values. Volatile fraction, studied by SPME-HRGC/MS, quantified 46 compounds; a significant difference in volatile composition during storage was showed. The main components were diacetyl (buttery, pungent), acetoin (creamy fatty, butter), 2- pentanedione (buttery), 2-heptanone and 2-nonanone (creamy, fresh). The quantity of individual components was different during storage; clear differences were found after 14 days. Statistically significant differences, particularly between 0 and 10 days, and 10 and 21 days were observed for most compounds. Diacetyl, 2-3 pentanedione and acetoin were prevailing up to 10 days; later, there was a significant increase in free fatty acids (rancid notes). Volatiles behavior was associated to LAB metabolic activity. A shelf life of 10 days was adequate for this fermented beverage. Fermenting strains can be responsible for health benefits and the probiotic activity of fermented donkey milk products should be further investigated and emphasized.

Biography:

Francesca Conte graduated at the age of 24 years from Messina University (Italy). She is Associate Professor in Food Hygiene at the Department of Veterinary Sciences, at the University of Messina (Italy). She is the director of Postgraduate School in Inspection of Food. She published more than 50 articles in Journals indexed in Web of Knowledge (WOS), PubMed and Scopus.

Influence of Natural Antioxidant In Maintaining The Quality Of Mackerel Fillets During Frozen Storage

Ester john
University of dar es salaam, Tanzania

The use of synthetic antioxidants such as butylated hydroxyanisole (BHA) and butylated hydroxytoluene (BHT) to prevent or inhibit lipid oxidation became a problem due to consumer demand for safe food. In this research, green tea extracts (GTEs) were used as a natural preservative for fish. GTEs are known for their antioxidants and antimicrobial activities due to the presence of various types of polyphenols particularly the catechins compounds. The GTEs were prepared by using water and ethanol and then concentrated. The tests were done by dipping pieces of fresh mackerel fillets in the solution containing green tea water extract and green tea ethanol extracts. The microbial tests were done using the total plate count (TPC) method. The results showed samples with GTEs 4.57 and 3.95 respectively, were capable of suppressing bacterial growth in fillets. Biochemical parameters such as TVB-N and TMA were tested to check the freshness of the fillets also showed significant improvements in the quality of the samples; PV, TBARS and FFA were also tested to check the extent of lipid oxidation in fillets during frozen storage and results showed lesser values when compared to control samples. The sensory tests also showed that GTEs were capable of improving the freshness of the fillets sample.This research report a green tea extract can preserve and extend the shelf life of fish and fishery products even for commercial purposes.

Biography:

Ester has completed her MFSc at the age of 28 years from Karnataka Veterinary, Animal and Fisheries Sciences University. She is assistant lecturer of University of Dar es Salaam. Also working as quality controller at Alphakrust ltd.

Effect of ultra-high pressure homogenization on structural and techno- functional properties of egg yolk granule proteins

Romuald Gaillard
Université Laval, Canada

The egg yolk granule, due to its composition in high-density lipoproteins, proteins and phosvitin, could be considered as a high-nutritional food ingredient. However, the native compact structure of egg yolk granule limits its use in food formulations. Ultra-high pressure homogenization (UHPH) is an emerging processing applied on a wide range of food matrices to improve their techno-functional properties due to its impact on protein structure. Consequently, UHPH could represent a promising innovative technology to generate egg yolk granule with improved techno-functional properties.

Egg yolk granule was UHPH-treated at 175 and 300 MPa – 1 and 4 passes. Structural modifications as well as techno-functional properties of the pressure-treated granules were determined. Results showed that UHPH treatment induced destabilization and structural modifications of egg yolk granule proteins validated by protein profiles on gel electrophoresis as well as free thiol and disulfide bond concentration and surface hydrophobicity. These modifications could be attributed to protein unfolding and subsequent aggregation/re-association of unfolded proteins. Regarding the techno-functional properties, UHPH treatments, mainly at 300 MPa with 1 and 4 passes, improved the water and oil binding capacities as well as the index stability of egg yolk granule without impact on its solubility. These new insights are relevant to support the development of new egg yolk granule products for the food industry.

Biography:

Romuald Gaillard has completed his Bachelor's degree in Biochemistry, Molecular and Cellular Biology and Physiology (B2MCP) in 2016 and then he achieved a Master's degree in Analysis and Quality in bio-industries (AQ bio) in 2018 at Rouen University in France. Since 2019, he is a PhD student in Food Science and Technology under the supervision of Pr. Alain Doyen and the co-supervision of Pr. Guillaume Brisson at Université Laval (Quebec).

A dual-signal fluorescent sensor based on MoS2 and CdTe quantum dots for tetracycline detection in milk

Nini Liang
Jiangsu University School of Food and Biological Engineering, 212013, China

Tetracycline is an antibiotic which is widely used for prevention and therapy of animal infections due to its low cost and high antimicrobial activity. However, excessive use of TET has caused its residues in the environment and animal products (such as milk, meats and eggs). Long-term exposure to TET from contaminated food can lead to its accumulation in the human body, increasing risks to human health. A dual-signal fluorescent sensor was developed for tetracycline (TET) detection in milk with excellent reproducibility and stability. In this protocol, molybdenum disulfide quantum dots (MoS2 QDs) with blue fluorescence and cadmium telluride quantum dots (CdTe QDs) with yellow fluorescence were synthesized to establish the MoS2/CdTe-based sensor with two fluorescence emission peaks at 433 nm and 573 nm. With the addition of TET, the fluorescence of MoS2/CdTe were quenched by photoinduced electron transfer (PET), and the fluorescence of CdTe QDs were quenched more obvious than MoS2 QDs. With the strategy, a calibration curve was established between the TET concentration in the range of 0.1-1 μM and the ratio of fluorescence intensity at 573 nm and 433 nm (F573/F433). Furthermore, the dual-signal sensor was applied for TET detection in milk samples with the recovery of 95.53-104.22% and the relative standard deviation (RSD) less than 5%, indicating the strong application potential.

Biography:

Miss Nini Liang is a doctoral candidate at Jiangsu University School of Food and Biological Engineering. She is mainly engaged in the fluorescence nanosensing detection technology and its application in food products. She has published 2 SCI papers as the first author in Food Chemistry (IF=9.231).

The role of Ontologies in Omics applications to nutritional sciences

Duccio Cavalieri
Florence University, Italy

Food ontologies are acquiring a central role in human nutrition. This importance is stressed in particular by the introduction of omics technologies in nutrition sciences, a field that has taken the name of nutrigenomics. The process initiated 20 years ago has now caused a sharp increase in the amount of information in the nutritional field seen as datasets of genomics, functional genomics, metagenomics, proteomics, metaproteomics, metabolomics. Yet a proper ontology to structure and formalize the concepts used for the description of transformation of nutrients into foods, trough fermentation or other industrial processes is still lacking. We are here to describe the Ontology for Nutritional Sciences, the first semantic representation of concepts revolving around the ontological formalization of nutrition, including the fermented food consumption domain. Our domain of interest stands in providing the basis for future full representation of what the consumption of cooked and fermented foods entails, both from a technical and health point of view in a semantic framework that requires integration of several ontologies including Gene Ontology (GO) pathways, with Chemical Entities of Biological Interest (CHEBI), FOODON, and NCBI taxonomy. We will thus document the basic semantic framework which may in the future be easily extended to any food, in particular those resulting from microbial metabolic pathways.

Biography:

Duccio Cavalieri (DC) started his career in 1995 applying molecular biology to ecological and evolutionary genomics of microorganisms. In 2000 he applied for the first time DNA microarrays to study the consequence on gene expression of existing genetic variation in a wine strain of Saccharomyces cerevisiae. From 2000 to 2004 DC was group leader and principal investigator of the Yeast comparative functional genomics unit at the Harvard Center for Systems Biology, where he pioneered the application of functional genomics to yeast population genetics. His work on pathway analysis in 2002 was seminal to the development of bioinformatics and systems biology for the interpretation of large “omics” datasets. In 2004 Duccio Cavalieri became group leader, researcher and “professore aggregato” at the Faculty of Pharmacy and Biotechnology of the University of Florence, in these years he applied genomics and bioinformatics to development of markers predictive of host microbe interaction, drug response and outcome of cancer therapies. Recently his interests are focused on the analysis of symbioses, between plants, mammalians and insects,with their microbiota, to study the boundaries between commensalism and pathogenicity. Since April 2012 as coordinator of the computational biology department at FEM, he has taken up a novel challenge, apply whole genome and next generation sequencing to microbial ecology and comparative genomics. With this aim he developed novel metagenomics bioinformatics tools some of which were recently published (Ramazzotti et al. 2012, De Filippo et al. 2012).

Physiological regulation of lignin-modifying enzymes synthesis by selected basidiomycetes

Ana Tsokilauri*
Agricultural University of Georgia, Tbilisi, Georgia

The uppermost factor in the regulation of lignin-cellulose activity of decaying white rot or free rot are the substances serving as carbon and nitrogen nutrition of microorganisms and are considered as the most important factor of generative activity of white rot . The research object was Basidiomycete Fungi, peculiar and common in Georgia, and separation of 10 of them , as pure crops . The unidentified pure crops have tasted in order to be determined the potential of synthesis of lingnin-degrading enzymes and the substrate of optimal lignocellulose growth. One of the most important aspects of the research conducted on Basidiomycetes, was the use of specific lignocellulosic residues for selecting Fungi, as substrate of their growth. In our study it was provided largescale screening program of several species of higher basidiomycetes isolated from different ecosystems of Georgia. The tested mushrooms have not yet been identified and have been named according to the geographical locations from which they were isolated.

In order to increase legnocellulose with the help of substrate, crops were selected from the screening stage, that showed good laccase avtivity. (Dusheti 1; Dusheti 10; Fshavi 5; Fshavi1; Fshavi 8; Fshavi 32; Manglisi 26; Sabaduri20; Dusheti 7; Sabaduri 1),

Among the selected cultures the crops with good laccase activity against the followong substances, in particular: Dusheti 1- in this case, the tate of enzymatic activity on bran substate was -105,6 u/ml, mandarin-96,4 u/ml. In case of corn - 102,9 u/ml. In case of Dusheti 7- the indicators were as follows: bananas-121,7 u/ml, mandarin-125,4 u/ml, corn - 117,1 u/ml. In case of Sabaduri 32, the laccase activity was as follows: pomegranate- 101,2 u/ml.

As a result of conducted experiments the synthesis and activity rates of enzymes depending on plant substrates, veried within a fairly wide range, which is still being inder research.

Acknowledgements: The work was supported owing to the financial support by the Shota Rustaveli National Science Foundation of Georgia in the frames of project PHDF-19-2847.

Keywords: Basidiomycetes , white-rot basidiomycetes, Lignocellulosic substrate, Laccase

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