



**May 20,
2024**

**Virtual
Event**

**International Conference on
Food, Nutritional & Dietetics**

**Theme “Centered on Remarkable Breakthroughs in
Food Science and Technology.”**

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Spreading Science and Technology Research Outcome to Remote Corners of the Globe.

Scitechseries offers a platform that is more inclusive and diverse, with researchers from the global North and the emerging South. A vast fraternity of budding researchers, experienced scholars, academicians, and seasonal professionals, join our conferences each year to deliberate on pure and applied Medical, Engineering, Technology, and Life Sciences research. We never deterred from adding emerging fields of research and our conferences spread across the destinations in Europe, Asia, the Middle East, the United States, and Canada.

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Scope of the International Conference on Food, Nutrition & Dietetics:

The International Conference on Food, Nutrition & Dietetics aims to address the multidisciplinary and interdisciplinary aspects of food science, nutrition, and dietetics. In the context of global challenges, this conference is timely and essential, especially in the aftermath of the COVID-19 pandemic. Recent studies show that food security and nutrition are critical issues worldwide, with many regions experiencing significant resource-related problems, including social and economic tensions. These complex challenges necessitate a comprehensive exchange of knowledge and ideas, requiring collaboration not only within the fields of food science and nutrition but also across various disciplines. It is crucial that these contributions are genuinely sustainable, going beyond conventional solutions and fostering interdisciplinary and interregional cooperation. The importance of in-person interactions for scientific advancement cannot be overstated. The conference will feature interactive sessions with high-level speakers, including government officials and leading researchers from both industry and academia. It provides a unique opportunity to gain a global perspective, encompassing insights from both developed and developing countries. Attendees will benefit from understanding industry perspectives as experts and thought leaders from prominent food and nutrition organizations discuss how to enhance sustainability in supply chains. Participants will have the chance to present their latest research, whether through short talks or poster sessions, facilitating the sharing of innovative findings in a supportive environment. This event is also an excellent opportunity to expand professional networks, discover the latest environmentally sustainable innovations, and hear from visionaries recognized by the Elsevier Foundation's Chemistry for Climate Action Challenge. By participating, you can contribute to spreading sustainable practices in food, nutrition, and dietetics worldwide, sharing experiences in research, teaching, and best practices.



KEYNOTE PRESENTATIONS



HANS-UWE DAHMS

Kaohsiung Medical University,
Taiwan

Mining value-added products from extremophiles – with a case study of recombinant cloning of a novel keratin degrading bacterial protease

Abstract:

Microbial secondary metabolites from extreme environments like hydrothermal vents are a promising source for food industrial applications of genes and their products. To provide an example we purified and characterized a novel extracellular protease SLSP-k from a extremophilic shallow HV inhabiting bacterium associated with hydrothermal vents having a molecular weight of 38 kDa. The particular objectives of this study were: (1) to amplify the gene for the novel SLSP-k, (2) to purify and characterize this protease enzyme, and (3) to explore the applications of this protease in research and value-added product synthesis. The novel SLSP-k showed stability in anionic, non-anionic detergents, and solvents. Blastn analysis showed gene similarity with both serine protease and keratinase. Mass spectrometry analysis and structure analog prediction confirmed that the protein belongs to the subtilisin family of peptidases and has a similarity with keratinases. Hydrolysis activity was confirmed with casein as a substrate and keratinase activity with feather and human hair degradation as observed by SEM. The novel SLSP-k protease is stable at a wide range of temperature, pH, solvents, and detergents. This protein has, therefore, potential applications in commercial product making such as the production of detergents and in peptide synthesis research. This holds for enzymatic hair degradation in surgical and cosmetic applications. The ability to degrade keratin in chicken feather and hair indicates that this enzyme is suitable for the degradation of poultry waste without the loss of nutritionally essential amino acids which degrade otherwise during hydrothermal processing. Therefore, the proteinase is efficient in environmental friendly bioconversion of organic waste into value added fertilizers or value added products.

Biography

Dr. Hans-Uwe Dahms is a professor at Kaohsiung Medical University and is interested in environmental health as it affects human public health at different integration levels. He advised more than 25 Ph.D. students and was writing and publishing more than 300 SCI papers. He is a reviewer of more than 86 SCI journals and editorial board member of 16 scientific journals, academic editor for Environmental and Public Health of PLoS ONE, and specialty chief editor at FMARS [FRONTIERS].



WAN ROSLI WAN ISHAK

University Sains Malaysia,
Malaysia

Application of selected agricultural resources in lowering glycemic index of selected food products

Abstract:

High intake of refined carbohydrates with low consumption of dietary fibres (DFs), particularly from vegetation has increased the risk of CVD, diabetes and other illnesses. The prevalence of chronic diseases is increasingly skyrocketing with the number of diabetic individuals expected to rise from 180 million in 2010 to 368 million in 2030. This is the main cause of morbidity and mortality all over the world because it can lead to problems in health and affect the quality of life. The purpose of this study is to investigate the effects of incorporation of selected agricultural resources in lowering glycemic index (GI) values in foods. The GI was determined according to WHO/FAO 1998's protocols. A low GI diet is beneficial to reduce the risks and complications of different health conditions such as diabetes. Mechanistically, the DF enhances glycemic response by raising the rate of absorption of glucose in the small intestine, thereby lowering the GI value. Our research reveals that incorporation of agricultural resources from over-ripe banana, oyster mushroom and cornlettes in a few baked products such as cookies, pasta, cakes, muffins and flatbread are improving nutritional composition and DF content while lowering the GI values. Besides, the scanning electron microscopic (SEM) observation reveals that the damaged cornlettes starch reduces starch hydrolysis, thus slowly raises blood glucose. Being physically active and eating a sufficient amount of DF (fruits and vegetables) are vital in reducing the risks of having diabetes, maintaining the health status and sustaining quality of life and societal well-being.

Biography

Wan Rosli is a professor of Nutrition Program at the School of Health Sciences, Universiti Sains Malaysia (USM), Health Campus, Kota Bharu, Kelantan, Malaysia. His research theme emphasizes more on the utilization of natural agricultural by-products into popularly consumed processed foods. Various low GI foods have been developed. He has been appointed as Junior Faculty Member from SEAM-EO-TROPMED RCCN, Indonesia in the Training of Leadership for Nutritionists in Jakarta Indonesia. He was selected among Top 10 Innovators for SYMBIOSIS project funded by MTDC Malaysia to commercialization Nutri-Mush® Cookies. He has published more than 120 articles in various indexed journals.



FIONA MCCULLOUGH

University of Nottingham,
UK

Opportunities to diversify dietetics practice placement opportunities and overcoming the barriers

Abstract:

In the UK it is recommended that dietitians diversify careers and embrace technology advances to optimise emerging role opportunities. Hence students should experience a diverse range of placements, not just clinical. The aim was to establish a process by which all students would experience a non-traditional 2 week practice learning block, within one 12 week practice education block. A range of 20 new placement opportunities were identified, staff approached, then trained and light touch quality assurance put in place prior to students selecting and embarking on the experience. Fifteen placements were added to the database. The range of settings includes freelance dietitians, public health, coaching organisations and charities, which enabled some student choice. Students complete a range of tasks and projects, selected by the placement lead. University staff provide long arm supervision. Additional student and staff resources were developed, and a collaborative and inclusive approach was adopted throughout. Barriers and challenges were also considered. Outcomes and Impact-All students undertook this placement opportunity and successfully progressed to the next stage of training afterwards. Feedback from practice educators indicated good and very good levels of satisfaction with the process, highlighting support from the placement team and the students' strong knowledge and professional approach as particularly outstanding. Student comments were 100% positive. In conclusion, the inclusion and effective embedding of a non-traditional, compulsory practice education block has enhanced our dietetic students experience of the variety of potential dietetics' workplace settings and has been positively embraced by both students and clinical practice educators.

Biography

Fiona McCullough is the Professor of Dietetics at Nottingham, where she has been leading dietetics education for over 20 years. She completed a PhD on vitamin A deficiency in children and has research metabolic syndrome and non-communicable disease, alongside curriculum development and innovation. Fiona is a past chairperson on the British Dietetic Association.



YASIN OZDEMIR

Ataturk Horticultural Central Research Institute,
Turkey

Uses and new opportunities of computer vision and artificial intelligence for quality and hygiene controls in food production lines

Abstract:

The uses areas of computer science, monitoring systems and artificial intelligence are increasing day by day. Digital images, image processing, near infrared, mid infrared, magnetic resonance imaging, ultrasound are used for quality and hygiene control in food producing factories. In particular, food quality and hygiene controls based on image processing have been more widely adapted to production lines. On the other hand, the use of computer vision-based applications such as NIR or MRI in the food industry generally remains within the scope of research or laboratory-scale studies. This study focuses on the use and new opportunities of computer vision and artificial intelligence for quality and hygiene controls in food production. In the study, introductory information is also presented about the grouping of both raw and processed olives according to their hardness with NIR spectral reading. Some new uses in personal hygiene control for food industry by using artificial intelligence which was based on visual indicators were presented. Developing such innovative measurements and control tools that can be adapted to production lines can reduce waste of time and resources. It has the potential to provide higher quality and more reliable production. Performing controls in real time also provides the opportunity to intervene and correct errors as soon as they occur.

Biography

Dr. Yasin OZDEMIR has completed his PhD at the age of 29 years from Namık Kemal University. He is the researcher of Ataturk Central Horticultural Research Institute. He has published more than 30 papers in reputed journals and has been serving as an editorial board member of Bahçe Journal. He has 3 patent registration about food processing.



CONNIE ROGERS

Institute of Integrative Nutrition,
USA

Nutrition, Health and Aging

Abstract:

Mitochondria are tiny structures found inside nearly every cell in the body including neurons. Mitochondria are associated with various cellular activities critical to homeostasis, particularly in the nervous system. Distinct cellular events causing oxidative stress or disruption of metabolism and mitochondrial homeostasis can trigger a neuropathology. ROS is the free radical theory of aging involving mitochondria, DNA and lost energy production leading to inflammation and implicated in the pathogenesis of cancer, diabetes, and atherosclerosis. Toxins can literally destroy our way of thinking properly and add to depletion of energy. Depression/Lethargy - an inflammatory stress response holds onto toxins. A stressed digestive system & immune system increase risk for insomnia and disease. Our brain needs proper nutrition, sleep, exercise, and neurotransmitter function. Obesity causes brain atrophy.” (Dr. Amen) Physiologically, children are more than ever vulnerable to brain aging. Endocrine disruption mimic hormones and can add to premature aging and disease. The gut microbiome is an endocrine organ containing microbes and genes. The skin is an endocrine organ and can produce hormones that are released through blood circulation. Toxic Ingredients and/or Carcinogens interfere with the proper functioning of the endocrine system, which controls the production and release of hormones. High nutrient-rich foods can make us feel stronger and healthier and speed recovery. Antioxidants fight oxidative stress. Colorful organic foods from the Cruciferous vegetables have countless overall benefits. One is cancer-fighting properties. Fermented foods are rich in probiotics. Probiotics build and feed our gut with healthy bacteria

Biography

Connie Rogers graduated near the beginning of the renowned Institute for Integrative Nutrition in NYC. (NYC 2003) She is accredited through the American Association of Drugless Practitioners. Connie Rogers is a Published Author (2015), Certified Integrative Nutritional Holistic Health Coach, Certified Brain Health Coach, Professional Researcher, Ghost Writer, Certified Cosmetologist / (1977) Skin Health Educator for over 40 years. Connie has owned and operated 2 day spas in her lifetime. She attended Gilda’s Club in NYC for caregiving studies in ovarian cancer. Studied <http://www.newstart.com/program/> Training under Don Hansen New Start Program in Colorado. Connie currently writes, speaks, and offers holistic options for balancing wellness. She believes when we tune into our health, growth is a spiral process changing directions as we learn. Connie has helped clients regain their personal health by taking back control of their lives through gained knowledge and simple yet powerful positive daily habits. Her passion is to discover and address the “causes” of health challenges and then create a movement of balance and vitality. Anyone close to her will agree, Connie Rogers truly walks the talk and the many lives she has empowered will tell you her wisdom and guidance are priceless. She coaches on the topics of the mind/body connection, gut microbiome/hormone connection, skin health from within, removing toxic exposures in order to create health, and the emotional balancing act of foods and moods.



ORAL PRESENTATIONS



SHUJUN ZHANG

Huazhong Agricultural University,
China

Discrimination analysis of milk types based on mid-infrared spectroscopy

Abstract:

There are various types of milk available in the market. This study compared the composition differences of three processing types of milk and three quality types of milk. Classification models were established using mid-infrared spectroscopy and machine learning. Significant differences were found in the lactulose, furosine, casein, and the ratio of lactulose and furosine among the three processing types of milk, with pasteurized milk (PM) < ultra-high temperature sterilized milk (UHTM) < powdered reconstituted milk (PRM) ($P < 0.05$). PM and UHTM had higher β -lactoglobulin content ($P < 0.05$). There were no significant differences in the fatty acid and α -lactalbumin content ($P > 0.05$). Significant differences were observed in the content of fat, protein, lactose, solids-nonfat (SNF), and total solids (TS) among different quality types of milk ($P < 0.05$, regular milk < high-end milk < organic milk), and regular milk had the lowest total fatty acid content, while organic milk had the highest total casein content. The best discriminant model for milk processing types was the differential wavelength (925.92-1481.472 cm^{-1} 1720.668-2314.8 cm^{-1} 2418.966-2966.802 cm^{-1}) + no preprocessing + support vector machine (SVM), while the best discriminant model for milk quality was the differential wavelength (925.92-1539.342 cm^{-1} 1720.668-2523.132 cm^{-1} 2538.564-2966.802 cm^{-1}) + standard normal variate (SNV) + SVM. The accuracy and kappa coefficient of both best models on the test set were 1, and the external validation results were also correctly classified. Therefore, mid-infrared spectroscopy can be used as a rapid, convenient, and accurate detection method to discriminate milk processing types and quality, providing new references for milk identification.

Biography

Shujun Zhang is a Professor at the College of Animal Science and Technology and the College of Veterinary Medicine of Huazhong Agricultural University and received her PhD in agriculture from Sichuan Agricultural University in 2001. Her research interests include MIR fingerprints, biomarkers and batch detection technology of milk, and the regulatory mechanisms and techniques of animal gender. She has obtained 16 invention patents, formulated 2 national standards, and published over 130 papers in domestic and foreign journals such as "JEM, Journal of Experimental Medicine," "PNAS," "J Bone Miner Res," and "Journal of Genetics and Genomics."



VLADIMIR GORCHAKOV

Novosibirsk State University,
Russia

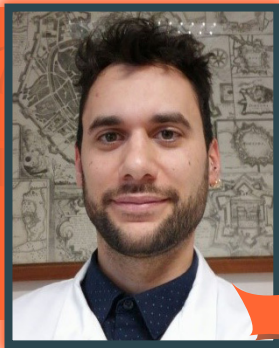
Lymphotropic aspects of nutrition as a way to slow aging

Abstract:

Aging and nutrition are interconnected. It is important to find a way to slow down aging. Integration of lymphology with functional nutrition theory (or phytodietetics) is the most promising idea. Detection of lymphotropic properties of bioactive food ingredients will increase activity of lymphatic system. Our task is to improve the protective status of lymph nodes by taking a plant-mineral product when aging. We know this because they did an experiment. Older animals took the additional food plant-mineral complex “IQdetoxSORB.” The basis of the food complex is physiologically active substances such as flavonoids, bioelements, food fibers and others. We first presented data on the effect of functional nutrition on the lymphatic system and proved the lymphotropic properties of the plant-mineral complex. The bioactive ingredients of the complex are useful and have an effect on the lymphatic system, improving health in old age. The increase in lymphatic system activity occurs through the implementation of a lymphosanation mechanism due to the stimulating and protective effects of plant ingredients. Intake of phytomineral complex accelerates lymph flow, modifies lymph node compartments, restores trace element balance. The positive effect depends on the formation of an association of bioelements with lymphoid compartments. A plant-based diet corrects and increases the protective status of lymph nodes. The result is a slowdown in age-induced changes in lymph nodes. Increased activity of the lymphatic system is an argument for slowing aging and preventing age-associated pathology. The information presented is the basis for recommending plant-mineral complexes for wellness programs of anti-aging.

Biography

Dr. Vladimir Gorchakov graduated from the Novosibirsk Medical Institute (1978). Recently, he has been working as a teacher at Novosibirsk State University. His doctoral dissertation was made based on materials from the 30 Soviet Antarctic expedition (1984-1985), where for the first time he investigated the influence of polyphenolic (plant) complexes on the adaptive processes of the organism. He received a doctorate in medical sciences (1991). The author created the direction of lymphonutritiology, which provides for the development of bioactive plant-mineral additives with a lymphotropic effect. Author of the book “Undesirable Effects of Bioactive Additives”. Hirsch’s Index is 10.



GIORGIO GARGARI

University of Milan,
Italy

Polyphenol-Rich Diet Shows Promise in Reducing Inflammation and Modulating Gut Microbiome in High-Inflammation Aging Adults

Abstract:

The study explores the potential of a polyphenol-rich diet (PR-diet) to improve intestinal barrier integrity in older individuals with higher intestinal permeability and “inflammaging.” Conducted as part of the MaPLE project, funded by the European Joint Programming Initiative, the research analyzed physiological parameters and metabolites in serum, urine, and feces.

During the project the inflammatory markers in serum (CRP, TNF-alpha, IL-6, calprotectin) and feces (calprotectin) were measured. Two distinct clusters of older individuals were identified based on inflammatory markers: high (cH) and low (cL) inflammatory levels. The fecal microbiome community structure, analyzed through shallow shotgun metagenomics, effectively predicted these clusters. The PR-diet demonstrated its efficacy in reducing serum levels of triglycerides, aspartate aminotransferase, and serum calprotectin in the cH cluster. It also influenced the fecal microbiome, enhancing taxonomic richness and promoting the expansion of specific bacterial genera and species. Moreover, the PR-diet impacted metabolite levels in serum, urine, and feces, with significant differences between the cH and cL clusters. Gene prediction analysis highlighted pathways correlated with inflammatory markers. Thiazole biosynthesis negatively correlated with TNF-alpha, IL-6 and fecal calprotectin, while inosine-5'-phosphate biosynthesis III showed a positive correlation with TNF-alpha. In summary, the findings suggest that a PR-diet holds promise in mitigating inflammation in older individuals. The research contributes valuable insights into the intricate connections among diet, microbiome, and inflammation in aging. These findings pave the way for developing dietary interventions aimed at promoting healthy aging and represent a significant advancement in understanding the interplay of these factors.

Biography

Dr. Giorgio Gargari obtained his degree from the University of Trieste and further specialized in system and synthetic biology field in Paris. Afterward, he pursued a food systems doctorate program at the University of Milan, completing it at the age of 29. Currently, he leverages his expertise as an Assistant Professor in the microbiology and human microbiome ecology courses at the University of Milan. Dr. Gargari has established himself as a prolific researcher, having published over 50 articles in peer-review journals. His dedication to the field is further demonstrated by his associated editor role for the BMC Journal: Gut Pathogens.



MARLENE FABIOLA ESCOBEDO MONGE

University of Valladolid,
Spain

Zinc and copper status, and copper/zinc ratio in a series of cystic fibrosis patients

Abstract:

Cystic fibrosis (CF) is a chronic disease that affects all areas of life and may require a supply of essential micronutrients such as zinc (Zn) and copper (Cu). Thus, the main aim of this cross-sectional study was to evaluate serum Zn and Cu levels, serum Cu/Zn ratios and their relationship with nutritional indicators in a group of CF patients. We assessed phenotypical features, clinical and biochemical tests (Zn and Cu levels by atomic absorption spectrophotometry) and dietary Zn intake (prospective dietary surveys of 72 hours, including a weekend day). Seventeen CF patients participated (76% Delta F580 mutation, 59% women). The mean serum Zn (87 $\mu\text{g}/\text{dL}$) and Cu (113 $\mu\text{g}/\text{dL}$) levels and dietary Zn intake (97% of Dietary Reference Intake) were normal. There was a meaningful association between serum Cu and Zn levels. 18% of CF had hypozincemia, and 23% had dietary Zn deficiency. Only one adolescent had hypocupremia, and two children had hypercupremia. No patient with dietary Zn deficiency had hypozincemia, suggesting that probably 41% of the cases were at elevated risk of Zn deficiency. No patient with hypozincemia had abnormal Cu levels. 94% of CF cases with a Cu/Zn ratio >1.00 indicate the state of inflammation and should alert us to consider the risk of Zn deficiency in these patients. Serum Zn by itself may not show a person's Zn status. Nonetheless, the Cu/Zn ratio could be helpful as a biomarker of an inflammatory state due to the underlying disease or zinc deficiency in CF patients.

Biography

Marlene is a pediatrician and a Doctor of Medicine, a researcher at the Faculty of Medicine of the University of Valladolid, Spain. She has a doctorate in "Health Sciences Research" and two master's degrees, one in "Clinical Nutrition" and the other in "Biological Aspects of Nutrition". Nowadays, that doctor works as a peer reviewer for the MDPI, Springer Nature, International Journal of Environmental Research, Wiley, Public Health and Medicine, etc. She is interested in food safety and food biofortification. Her research field is micronutrient deficiencies and the nutritional status of patients with malnutrition and chronic diseases.



MOHD AAQIB SHEIKH

National Institute of Technology,
India

Detoxification of Plum kernels (*Prunus domestica* L.): A novel and potentially economical approach towards sustainable development goals

Abstract:

In the present scenario, the valorization of agri-food wastes to produce value-added products for potential applications in food sectors can minimize waste generation and reduce environmental pollution. Plums (*Prunus domestica* L.) are amongst the most significant fruits in terms of customer preference, delicious taste, and nutritional properties, grown globally at around 12.1 million metric tons per year. Plum kernels contain abundant nutrients and constitute an economical source of good-quality oils (45.95 to 50.00%), dietary proteins (35.9 to 40.0%), and other bioactive compounds that are irretrievably lost during processing. However, these kernels have not been effectively exploited due to the presence of toxic compounds such as amygdalin (range 0.1-17.5 mg g⁻¹). To reduce the amygdalin content below the permissible limit, a response surface methodology was used to optimize hydrothermal treatment conditions. Under the optimized conditions, the reduction of amygdalin content was 68.72 %, which was also not under the permitted limits. However, the Combined effect of microwave and hydrothermal treatments appeared to be most effective in improving the nutritional profile and reducing the amygdalin content to undetectable amounts. The combined treated samples revealed considerable amounts of good-quality, oils, proteins, and bioactive compounds. The recovery of these elements appeared to be a non-conventional source of great value in human nutrition owing to the nutritious, highly functional, and affordable food ingredients. The extracted oils and isolated proteins from detoxified kernels showed typical features to scavenge hydroxyl radicals beyond their nutritional and techno-functional properties with a plethora of desirable characteristics for product formulations.

Biography

Mohd Aaqib Sheikh is a distinguished National Post-doctoral Fellow (NPDF) at the National Institute of Technology, Rourkela, Odisha. He holds a Ph.D. in Food Engineering and Technology and an M.Tech in Food Process Engineering. Previously, he served as an Assistant Professor in the Department of Food Technology at Eternal University Baru Sahib HP. He has been honored with the NPDF, SRF, ASRB NET, ICAR AICE-JRF/SRF (PGS), and Quality Publication Awards. He has published more than 15 research papers, 2 review articles, and 13 book chapters in reputed journals. He serves as an active reviewer for numerous reputable scientific journals.



AHMAD RUFAI MUSA

Federal University,
Nigeria

Alternative utilization of invasive Macrophyte-Typha as silage for feeding sheep in the dry season in the arid region of Nigeria

Abstract:

The experiment investigated the chemical composition, voluntary feed intake and performance of Yankasa Sheep fed varying levels of molasses-urea treated Typha Silage. A total of sixty four (64) Yankasa sheep (32 male and 32 female) with average initial body weight of 19 ± 1 kg were allotted to four dietary treatments in a completely randomized design with four replicates and four sheep per treatment. Fresh Typha harvested from Hadejia Valley Irrigation Project area, Jigawa were chopped to 2 - 3 cm long, compressed in polythene bags after addition of molasses (4.5%), urea (2.5%), packed and fermented for 60 days. Four experimental diets were formulated; T1 as control (0% Typha silage), T2 (10% Typha Silage), T3 (20% Typha Silage) and T4 (30% Typha silage). The experimental diets were fed twice daily at 3% DM of their body weight. The voluntary feed intake was significantly influenced ($P < 0.05$) by increasing level of Typha silage. Weight gain were significantly ($P < 0.05$) increased with increasing levels of Typha silage in the diets. T2 and T3 have higher weight gain (4.47 kg and 4.46 kg) respectively. Average daily weight gain (ADWG) were significantly ($P < 0.05$) influenced by inclusion of Typha silage in their diets with the highest value in T2 (106.4 g/day), while the control had the lowest with ADWG (97.14 g/day). Final body weight were significantly ($P < 0.05$) influenced by inclusion of Typha silage in their diets with the highest value in T2 (24.46 kg), while the control had the lowest (24.04 kg). It is recommended that 20% of molasses-urea treated Typha silage inclusion is the optimum inclusion level for improving the performance of Yankasa sheep and can therefore, be used to sustain animal performance during the dry season in a total mixed ration.

Biography

Ahmad Rufai Musa holds PhD in Animal Science from Bayero University in Kano, Nigeria. He was a visiting scholar at Universidad Politexhnica de Madrid, Spain. He is currently a academic staff at Federal University Gashua, Nigiera. He has over 20 publications with some in high impact journals. He reviewer and member of editorial team of some journals.



MUZAFFAR HASAN

Central Institute of Agricultural Engineering,
India

Unravelling the effect of extraction on anthocyanin functionality and prebiotic potential

Abstract:

Anthocyanins, considered as prebiotic ingredients for functional foods, were extracted from black soybean (BS), black grape (BG), black carrot (BCPm), and black rice (BR) using conventional solvent extraction (CSE) and microwave-assisted extraction (MAE). The study employed a split-plot design with CSE and MAE as main plot factors and anthocyanin extracts (AEs) as subplot factors. Anthocyanins were evaluated for stability (polymeric color, degradation index) and functionality (antioxidant capacity). Prebiotic potential on *Lactobacillus rhamnosus*, *Lactobacillus acidophilus*, *Weissella confusa* was assessed in fermented soymilk. MAE showed higher extraction yield than CSE in BG (3-fold), BS (2-fold), BCPm (1.2-fold), and BR (1.6-fold). Black grape (1255.76 mg/L) and black soybean (976.5 mg/L) had highest anthocyanin with better stability, functionality, and prebiotic potential. The SCFA concentration (propionic acid and butyric acid) increased significantly in BG fortified-fermented soymilk. Overall, anthocyanin-enriched soymilk exhibited higher prebiotic potential, with MAE as the superior extraction method for anthocyanin functionality and stability.

Biography

Dr Muzaffar Hasan has completed his PhD from Division of Biochemistry, Indian Agricultural Research Institute, New Delhi, India. He is currently working as Scientist at Central Institute of Agricultural Engineering, Bhopal, India. He has published more than 25 papers in reputed journals and has been serving as an editorial board member of reputed journal.



BIBHA KUMARI

Patna University,
India

The dietary condition of fish found in the nearby market

Abstract:

Fish is an important source of animal protein. However, its quality deteriorates quickly due to factors such as microbial activity, oxidative reactions, and self-enzymatic activity, especially with rising temperatures. This can be problematic as the freshness of fish greatly affects its acceptability to consumers. Inadequate preservation facilities and long transportation distances can further contribute to a decline in quality by the time the fish reaches the market. To tackle this problem, traders frequently turn to the use of formalin, a 37% solution of formaldehyde, as an economical preservative. However, it is important to note that formalin possesses harmful and carcinogenic properties, and it can readily permeate fish tissues. Traders may immerse the entire fish in formalin, inject it into the body cavity, or spray a mixture of formalin and water on the surface while displaying the fish in retail markets. It is believed that formalin significantly influences post-mortem changes, affecting the physical, biochemical, and nutritional components of fish flesh or the entire fish. While fish preserved with formalin have a longer shelf life compared to other methods, it is important to note the presence of formalin in edible fish poses health risks.

Biography

Dr. Bibha Kumari has completed her PhD in Zoology from Magadh University, Bihar, India, and has more than 17 years of teaching and research experience. At present, she is the President-Elect of the Asian Pacific Chapter of the World Aquaculture Society. She has published more than 15 papers in reputed journals and reviewed more than 35 articles for international journals. Also serving as an editorial board member of repute.



DAN BAHADUR PAL

Harcourt Butler Technical University,
India

Waste Biomass of Mango, Jackfruit, Jamun and Amaltash Seed Flour for their Food Nutritional and Mineral property

Abstract:

Seeds biomasses of plants unique that stores all the necessary ingredients to support the embryo of the plant during germination. In this study, we evaluated morphology, texture, composition and nutritional properties of the seed flour of Mango, Jackfruit, Jamun and Amaltash by various sophisticate instruments such as Field Emission Scanning Electron Microscope (FESEM), Energy Dispersive X-ray Spectroscopy (EDX), CHNS/O analyser, X- Ray Diffraction (XRD) and Fourier Transform Infrared spectroscopy (FTIR). Mango and jackfruits are spherical ($\sim 2-6\mu\text{m}$) in morphology and that contains several functional groups (wave-number 3343 cm^{-1} of O-H vibration), 2920 cm^{-1} and 2156 cm^{-1} are corresponding to the C-H aliphatic stretching vibration, 1627 and 1728 cm^{-1} is attributing to the stretching band of the carboxyl double bond from carboxyl functional group. All seed flour were analysed by EDX for nutritional elements like carbohydrates, proteins, lignin, fat, cellulose, fibre, antibacterial and minerals elements, these nutrients are beneficial for various applications in the food industry and pharmaceutical industry.

Biography

Dr. Dan Bahadur Pal is currently working as an Assistant Professor, Department of Chemical Engineering, Harcourt Butler Technical University, Uttar Pradesh India. He received his M. Tech in 2011 and Ph.D. in 2017, in the field of Chemical Engineering from Indian Institute of Technology (BHU) Varanasi, Uttar Pradesh, India. He completed his doctorate degree in the field of nanotechnology and catalysis. These nanofibers have very promising potential to provide benefits to nanotechnologies, energy, environment, catalysts, sensors etc. Dr. Pal has more than 81 publications in journals of international repute, six books and thirty book chapters. His research interest is nanotechnology, catalysis, energy and environment and waste management with a special focus in developing process and materials by using waste as raw materials. He also prefers to work on bio-waste processing and value addition.



VASUDEVA SINGH
Gauhati University,
India

Grain processing in general and Rice Technology in specific

Abstract:

Production of cereals in World is around 2846 million tonnes (MT) and India produces around 280 MT as on 2023-24. 750 MT of paddy is produced in World and India produces around 304 MT (22-23). From this, ~10% (30 MT) goes for the production of rice products like rice flakes, expanded rice and popped rice which are generally prepared or manufactured in small scale industries. Around 135 MT produced is used for production of raw rice and balance (135 MT) is used for the production of parboiled rice. World rice have been classified into 8 groups based on some of their physico-chemical properties like amylose content, gelatinization temp., alkali score, pasting behavior or viscographic parameters, cooking behavior etc. Importance of brown rice and Tiny rice mill will be highlighted. Medicinal rice Njawara, a pigmented variety, having high nutrients, its various physicochemical properties, protein and lipid profile in comparison with non-medicinal rice will be touched upon. Preparation of pregelatinized starches will be informed. Usage of cereals, millets, legumes in the preparation of multi grain ready to cook (RTC) and ready to eat (RTE) products will also be touched upon. Making of dhal from whole pulses and their technologies which are generally followed all over the world, in some parts of Asia will also be focused upon. Millet technology in brief, maize grits manufacture and products from maize, in addition manufacture of starch from tapioca, which is generally used for the manufacture of Sago will also be touched upon.

Biography

After retiring from CSIR-CFTRI as Chief Scientist during 2013, worked as an Emeritus Medical Scientist (ICMR) at the University of Mysore and worked as a Professor, under DBT sponsored Food Science Project, Gauhati, Gauhati University. Published 85 research papers, inventor of several technology processes, one Patent was commercialized to 30 industries. Handled several National & International projects. Guided around 100 B.Tech M.Sc, M.Tech students for their Dissertation and Investigation problems and produced 8 Ph.D candidates, including guiding INSA, African countries, candidates.



TRIDIB KUMAR GOSWAMI

**IIT Kharagpur,
India**

Malnutrition: How To Combat Effectively

Abstract:

Malnutrition occurs when a person's diet does not provide enough nutrients or the right balance for optimal health. Symptoms often involve weight loss, reduced appetite, tiredness, and irritability. Causes of malnutrition include: unsuitable dietary choices. Though it is by definition of malnutrition, but the real truth is a majority of the people all over the world do not get minimum food to survive. It is obvious that those people who are not able to arrange by any means, a minimum requirement of food to survive, the question of balance diet for optimal health etc. are not applicable for them. It is whose duty or where from they will get minimum requirement of food is the prime question. On the other hand, there are many people who suffer from different diseases owing to excess intake of nutrients, imbalance of essential nutrients or impaired nutrition utilization. Out of 4 broad sub-forms of undernutrition, i.e., wasting, Stunting, underweight, and deficiencies in vitamins and minerals, one of the prime cause of malnutrition is wasting. The quantum of total food produced all over the world is enough as of now to feed entire population of the world. Of course, the day is not far away when it will be not enough even if the distribution is made proper. If you look at outside of any restaurant or hotel in any city of the world, underdeveloped, developing or developed country, the amount of food wasted every day can easily feed many people of the villages. This highlights the need of proper control and regulations. By nature, human cannot be restricted by adopting any rule or regulation. But, it can be minimised with proper and appropriate rules and regulations. Hence, it becomes necessary for the world health organization (WHO) to frame proper rules and regulations and implement it throughout the world. Of course, many other reasons are there for the wastage, such as inadequate or improper facilities to store foods all over the world. BUT, it is high time to look into appropriate distribution of food all over the world between poor and rich people. I wish, a suitable rule and regulation is framed by controlling authorities to distribute food appropriately amongst human being, be it poor or rich. This will also help to develop proper infrastructure to minimize wastage due to poor / improper facility of storage and distribution of food. Unless the basic laws and facilities are improved, eradication of malnutrition will remain as topic of discussion even in the next century.

Biography

A NAAS, ISAE, IE, AABS Fellow, is Professor, HAG of Agricultural and Food Engineering Department, IIT Kharagpur. He has 6 Indian Patents, published 130 papers, written 4 books and 11 book chapters. Out of 14 Ph.D. he guided, 3 have been awarded Jawaharlal Nehru Award (ICAR).

Phytochemical Analyses Reveal Antioxidant, Antidiabetic, Anti-Inflammatory and Antiproliferative Properties of underutilized Rosaceae flowers

Abstract:

The objective of this study was to evaluate the potential utility of young flower clusters from *Prunus*, *Malus* and *Chaenomeles* for application in the food industry, while also establishing a polyphenolic profile to ensure quality control. Various bioactive compounds and their antioxidant capacities were assessed through spectrophotometric methods. Identification and quantification of primary phenolic compounds were conducted using LC-DAD-MS. Additionally, the potential antidiabetic and anti-inflammatory effects were determined through α -amylase and α -glucosidase inhibition assays, as well as a 5-lipoxygenase inhibition assay, respectively. Cytotoxicity was assessed using an MTT assay. Statistical analyses including one-way ANOVA, principal component analysis, hierarchical clustering, and Pearson's correlation coefficient were employed to unveil relationships among samples and parameters measured. A total of 77 compounds were identified, with *M. purpurea* exhibiting low sugar concentration at 1.56 ± 0.08 mg/g DW. *C. japonica* demonstrated the highest efficacy in inhibiting antidiabetic enzymes and the anti-inflammatory 5-lipoxygenase. The inhibition of α -glucosidase showed a strong positive correlation with total and condensed tannins, procyanidin dimers, and procyanidin tetramers, and a very strong correlation with chlorogenic acid. In terms of α -amylase inhibition, *C. japonica* and *P. serrulata* 'Kiku Shidare Zakura' were equally effective as the standard inhibitor, maltose. *P. avium* showed the most significant inhibition of growth and proliferation in HepG2, HCT116, and HaCaT cells. These findings suggest that inflorescences from *Prunus*, *Malus* and *Chaenomeles* could serve as functional food ingredients.

Biography

Ivana Sola is a PhD Assistant Professor at the University of Zagreb, Croatia, within the Department of Biology. With a focus on scientific research and education, Ivana contributes to advancing knowledge in biological sciences. Her expertise spans areas such as Plant Molecular Biology, Plant Biology, Plant Biochemistry, Plant Tissue Culture, Plant DNA Extraction, combining academic rigor with a passion for discovery. Ivana Šola plays a vital role in mentoring students and conducting impactful research within her field.

A top-down view of various fresh fruits and vegetables arranged on a light-colored surface. The items include whole and sliced bell peppers in red, green, and yellow; sliced carrots; cherry tomatoes; broccoli florets; asparagus spears; lemons (one whole, one sliced); kiwi slices; and almonds in a small wooden bowl. A large, stylized graphic element, consisting of a dark grey and orange curved shape, frames the top and right sides of the image.

POSTER PRESENTATIONS



IOANNIS PANAGIOTAKOPOULOS

University of Aegean,
Greece

Ultrasonic-Assisted Extraction of Astaxanthin from Shrimp By- Products Using Vegetable Oils

Abstract:

Investigating sustainable methods for astaxanthin extraction from shrimp by-products is crucial due to environmental concerns associated with traditional solvent-based techniques. This study explores the feasibility of using eco-friendly vegetable oils, such as olive oil (OO), sunflower oil (SO), and flaxseed oil (FO), in ultrasound-assisted extraction (UAE). Astaxanthin's antioxidant activity was assessed using an ABTS assay, and coacervates formed with a mixture of gum Arabic and soy lecithin were utilized for astaxanthin encapsulation. Optimal conditions were determined: a by-product-vegetable oil ratio of 1:60, 210 minutes extraction time, 60% extraction process amplitude, and OO as the solvent, yielding 235 ± 4.07 μg astaxanthin/g by-products. Encapsulation efficiency was measured at $66.6 \pm 2.7\%$ on day 0, with a recovery rate of $94.4 \pm 4.6\%$ on day 1. Utilizing OO as the extraction solvent presents a promising avenue for reducing the environmental impact of shrimp by-products. The high encapsulation efficiency further underscores its potential application in the food industry.

Biography

Ioannis Panagiotakopoulos is a PhD Candidate at the University of the Aegean, in Lemnos Island, Greece. He applies his expertise in Food Science and Technology. His educational background also encompasses an MBA in Food & Agribusiness from the Agricultural University of Athens. Additionally, he holds a bachelor's degree in food science and nutrition from the University of the Aegean. With a strong focus on innovation and sustainability, he is dedicated to crafting groundbreaking products that meet consumer needs while complying with regulatory standards. Based in Athens, Greece, he continues to drive advancements in product development and research

Effect of cooking methods on the mineral content of Okayama coriander (*Coriandrum sativum* L.)

Abstract:

Coriander (*Coriandrum sativum* L.) is an annual plant of the Apiaceae family and is known as a functional food. The coriander grown in Okayama Prefecture (Okayama coriander) has less flavor than cilantro produced in other prefectures in Japan, making it mild and easy to eat. And Okayama coriander contains some minerals and vitamin C in higher levels than those from other areas in Japan. In this study to determine the mineral changes in Okayama coriander by cooking, content of minerals (Na, K, Ca, Mg, Mn, Fe, Cu, Zn) in stem and root of Okayama coriander was measured by atomic absorption spectrometer. Leaves were excluded because they are usually eaten raw. The cooking methods were stir-fry, boiling, and deep-fry, and the loss in content of minerals was analyzed. During cooking, the loss in content of minerals was different depending on the kinds of minerals, the part of coriander, and cooking methods. This study appeared that the stem loses minerals in lesser extent than root during cooking, and that both parts of the stem and root lose minerals in lesser extent during stir-fry cooking than other cooking methods.

Biography

I graduated from the Department of Nutrition at Okayama Prefectural University and am currently an Okayama Prefectural University postgraduate student, majoring in Nutrition. I am conducting research on the nutritional components of local agricultural products

A top-down view of various fresh fruits and vegetables arranged on a light-colored surface. The items include whole and sliced bell peppers (red, green, yellow), sliced carrots, cherry tomatoes, broccoli, asparagus, lemons (one whole, one sliced), kiwi slices, and almonds in a wooden bowl. A large, stylized graphic element, consisting of a thick, curved band in shades of orange and brown, frames the top and right sides of the image.

ACCEPTED
ABSTRACTS

ANAND SHARMA

Kazi Nazrul University,
India

Conventional processing method for lowering non-nutrient components of edible legumes

Abstract:

Legumes are considered as a rich source of nutrients and offer various health benefits. However, legume nutritional quality is hampered by the presence of an appreciable amount of non-nutrient components. These include -galactosides, phytic acid, enzyme inhibitors, lathyrrogens, lectins, biogenic amines, saponins and tannins which limit the availability of nutrients in the foods thereby affecting metabolism and potentially cause negative health effects. Conventional processing methods including dehulling, soaking, boiling, cooking, sprouting and fermentation can effectively reduce these non-nutrients. Furthermore, these processing methods must be optimized for maximum performance, non-nutrient minimization using response surface methodology has been highlighted. Optimally prepared food products ensure meeting the consumer demand of improved, healthy, and more nutritious and safe foods. Such modeling-based optimization approach will be helpful to define best practices at the small-scale production alike.

Biography

Dr. Anand Sharma is an Assistant Professor in the Department of Botany at Asansol Girls' College, affiliated with Kazi Nazul University. With a strong academic background and research expertise in plant biology, Dr. Sharma is dedicated to fostering botanical knowledge among students. His areas of interest include plant physiology, ecology, and conservation. Dr. Sharma actively contributes to scholarly research and plays a pivotal role in academic initiatives at the college.

DIREN DURAN

Yildiz Technical University,
Turkey

Impacts of visible light treatment on broccoli shelf life and quality parameter

Abstract:

This study investigates the impact of visible light treatments on post-harvest broccoli. Hypothesizing that green-light dominance, white-light dominance, and an equal white-green cycle positively influence quality parameters and shelf life, LED lights were utilized for three distinct photoperiodic applications. Broccoli samples stored at +4°C and 95% relative humidity for 14 days underwent statistical analyses, including ANOVA and post-hoc tests, enhancing the precision of assessments. Results indicate that green-weighted and equal-duration treatments positively affected chemical parameters, including increased chlorophyll content, elevated levels of vitamins A and C, and enhanced antioxidant activity. Light-exposed samples exhibited increased weight loss, signifying activated metabolic processes. Sensory evaluations at the 14-day mark revealed control group samples reaching the end of shelf life, while light-treated samples maintained visual appeal and sensory attributes, extending shelf life significantly. Throughout storage, control group samples displayed unfavorable trends in color parameters, contrasting with light-treated samples that exhibited resilience in color retention, emphasizing the protective role of visible light treatment. In conclusion, this research underscores the positive impact of visible light applications in preserving post-harvest broccoli quality and extending shelf life, offering practical insights for enhanced food safety during storage.

Biography

I am 24 years old and I live in Istanbul. I completed my undergraduate studies in Food Engineering at Yildiz Technical University at the age of 22 and am currently pursuing my master's degree in the same field at the same university, marking my final semester. Concurrently, I have been working as an R&D engineer at Arcelik (Beko) for 1.5 years, actively participating in projects focused on food preservation. In this role, I contribute to the development of novel technologies and patents in the field.

ELNAZ MILANI

Iranian Academic Center for Education Culture and
Research, Iran

Modification of functional dietary fiber supplement based on agro food byproducts

Abstract:

The search for new sources of fortified components from low cost and sustainable sources has become a trend in the last decade. Approximately 35% of the world's food and agricultural products are wasted each year. Global food waste has become a negative impact on the environment due to the problems associated with its accumulation. Fruits and vegetables processing, coffee and sugar processing, grain milling, and oil extraction would be one of the accessible and cost effective sources of bioactive compounds such as dietary fiber, protein, and phytochemicals. The generation of huge amounts of Agri-food byproducts opens an important area for applied research to reduce and manage them efficiently. Chemical, mechanical, thermal and enzymatic processing are used to modify the techno-functionality of byproducts. Due to high microbial contamination, waste requires rapid processing. In all recent methods, waste processing is very time-consuming. Extrusion is an efficient technology for converting food byproducts into nutrient-rich food ingredients in a short time on an industrial scale. Extrusion technology applies high temperatures and pressure simultaneously, usually resulting in physical and chemical changes of the material. Therefore, For the practical applications of these byproducts in extrusion, it is crucial to understand their impacts on the qualities of raw material blends and extruded products. In this text, different methods of modification and processing of the resulting fiber based on agro-food by-products will be examined and compared in terms of operation yield, efficiency, technical and microbial quality of the final product, production cost and environmental impact.

Biography

I am **Elnaz Milani**, Associate Professor at the Institute of Food Research of Iranian Academic Center for Education, Culture and Research (ACECR) with 16 years of teaching and research experience. I have received all my degrees from B.S.c to P.hd at Ferdowsi University of Mashhad, Iran. My research interests include: Food extrusion technology, Functional food, plant protein, Meat analogue, Instant food product, prebiotics and probiotics. To date, I have published 81 articles, 38 of which are indexed in Scopus. My H-index is 19 in Scopus and 22 in Google Scholar. I have supervised 11 PhD and 40 MSc thesis.

Anthocyanin extraction and purification: A class of versatile compounds from indigenous fruits of Pakistan

Abstract:

Anthocyanins (ACNs) are water-soluble plant pigments responsible for the blue, purple, and red color of many plant tissues. The food industry is renewing its interest in replacing synthetic red dyes with natural plant colorants in response to consumer concerns due to wide availability, non-toxicity, and complete biodegradation. However, the major problem with ACNs in all these sources is their instability and low extraction yield during processing and storage. Therefore, purification and chemical stabilization of ACNs is the main focus of recent studies and the purification of ACNs extract is necessary before the quantity of each ACNs can be determined. Hence, the aim of present study is to identify, purify and characterize the ACNs from indigenous fruits for their potential exploitation and industrial use. ACNs are first time characterized from indigenous fruits such as *Grewia asiatica* (*G. asiatica*), *Opuntia f. indica*, *Teminalla cattappa*, *Carissa carandas*. The total ACNs content in all fruits was determined by pH differential method, whereas the individual ACN composition and identification of ACNs was done by high performance liquid chromatography coupled to photodiode array and MS/MS detection. Results indicated that indigenous fruits of Sindh contents high amount of ACNs i.e. *G. asiatica* (1193.8 µg/g) followed by *T. cattappa* (670.23 µg/g), cactus pear (552.62 µg/g) and *carissa carandas* (414.21 µg/g). Among these fruits Cyanidin-3-O (6''acetyl glucoside) was the major ACN (695 µg/g ~44-63%) in *G. asiatica*, while cyanidin-3-O-glycoside was dominant ACN in Cactus pear (220.23 µg/g ~45%). Hence these CAN from indigenous fruits can be exploited as a functional food commodity for industries if explored properly, for its possible utilization and commercial use.

Biography

Dr. Farah Naz Talpur has completed her PhD at the age of 29 years from National Centre of Excellence in Analytical Chemistry (NCE-AC), University of Sindh, Jamshoro. She has done postdoctoral research at Middle East Technical University, Ankara, Turkey (2008-2010) and Dublin City University Ireland, March-August 2014. Presently she is serving as Professor at NCEAC, University of Sindh. She has 22 years experience in research and teaching in Analytical chemistry. She has published 180 quality research papers in peer reviewed journals with impact factor 460 and 3384 citations. Delivered 20 lectures in International and 35 in National Chemistry conferences. Dr. Talpur Awarded as Productive Scientist of Pakistan thrice in 2011, 2012 and 2014 respectively by the Ministry of Science & Technology, Government of Pakistan.

HANNAH XIAOYAN HUI

The Chinese University of Hong Kong,
Hong Kong

Targeting adipose browning with Rhein: An innovative Chinese Medicine-Based approach to treating obesity and metabolic syndrome

Abstract:

Brown adipose is capable of dissipating extra energy in the form of heat. Studies in the past decade have shown that enhancing adipose tissue browning is sufficient to confer protection against obesity, diabetes and cardiovascular diseases. Therefore enhancing adipose tissue activity in adult human is clinically feasible and is now regarded as a new therapeutic strategy to combat obesity and metabolic diseases. Rhubarb has been implicated to have anti-obese, anti-diabetic effect, but the mechanism underlying this phenomenon is unclear. By evaluating the major components in Rhubarb, we found one of the components, rhein, is potent in potentiating adipose browning in mouse and human brown adipocyte and adipose tissues. Mice fed with rhein showed significantly improved obesity, adiposity, and insulin resistance, which is accompanied by increased adipose tissue browning, and whole body energy expenditure rate. By immunoprecipitation, we characterized ARGLU1 as the direct target of rhein to mediate its action, which is a key co-activator of glucocorticoid receptor. Subsequent in vitro and in vivo studies showed that rhein treatment enhances adipose tissue browning via mitigating glucocorticoid-induced suppression of brown adipose activity. Interestingly the anti-inflammatory effect of glucocorticoid is not affected. In summary, the current study demonstrates rhein as the major component in Rhubarb that enhances adipose browning and energy expenditure. The results will shed new light on the benefits of rhein in adipose browning, and support Rhubarb as the Chinese medicine used to improve adipose browning.

Biography

Dr. Hannah XY Hui has completed her PhD in Chinese Academy of Sciences and continued her postdoc training in The University of Hong Kong. She is currently the assistant professor in School of Biomedical Sciences, The Chinese University of Hong Kong. Her research interest lies on adipose tissue, in particular how adipose tissue is remodeled in response to different nutritional conditions and stresses. Her work recently uncovered the role of various physiological, hormonal and nutritional cues in adipose tissue remodeling, such as lactate, androgen, thyroid hormones. She has published over 40 peer-reviewed papers including *Cell Metab*, *Nat Commun*, *Adv Sci*, *Sci Adv*, *J Clin Invest*, *EMBO rep*, *Diabetes*, *Brit J Pharmacol*.

HONGKUI WEI

Huazhong Agricultural University,
China

Postnatal maturation of intestinal microbiome by oxygen intervention promotes type 3

Abstract:

Infections are a major cause of early postnatal mortality in neonates, which can be attributed to an immature immune system in the neonates. Early life is a vital period for mammals to be colonized with the microbiome, which profoundly influences the development of intestinal immune function. Through the use of technologies such as Hypoxyprobe, 16s rRNA sequencing, whole-intestinal microbiota transplantation, LC-MS/MS, and flow cytometry, we found that *S.boulardii*'s early intervention reduced the oxygen environment and promoted the maturation of the microbiome in the intestine of neonatal rats, especially boosted the colonization of *Lactobacillus* and restricted the colonization of streptococcus. Moreover, oxygen consumption promoted the proliferation and cytokines secretion of type 3 $\gamma\delta$ T cells and ILCs and then alleviates the mortality rate and bacterial loading induced by *S.typhimurium* infection in neonatal rats. Mechanically, microbiome maturation downregulates FXR by accelerating the formation of secondary bile acids and then promotes the Rorgt expression (transcription factor of type 3 immunity), which is correlated with the colonization of *Lactobacillus* in early life.

Biography

Hongkui Wei (1986-): Dr. Hongkui Wei received a Ph.D. degree from Huazhong Agricultural University in 2012, and then he works in the School of Animal Science and Technology, School of Animal Medicine, Huazhong Agricultural University as an Associate Professor. His main research interests are the interaction between the intestinal microbiome and the innate immune system in the early, and the nutritional mechanism and metabolic regulation of fatty acids and amino acids.

LEYANG LIU

Capital Medical University,
China

Effects of a low glycemic index or low glycemic load diet on pregnant women at high risk of gestational diabetes: A meta-analysis of randomized controlled trials

Abstract:

Aims: To evaluate the effect of low glycemic index or low glycemic load diets on maternal and neonatal outcomes at high risk of gestational diabetes mellitus (GDM). **Data synthesis:** Several databases (PubMed, Cochrane Library, Web of Science, Embase, OVID, Clinical Trials. gov, China National Knowledge Infrastructure, China Biomedical Database, and Wanfang Database) were searched from January 1990 to January 2022 (updated to November 2022). Randomized controlled trials of low glycemic index diets interventions for women at high risk of GDM were included. From 2131 articles initially were screened, after eliminating duplicates, 1749 titles and abstracts were analyzed. 71 documents that met the inclusion criteria were selected and 3 documents were obtained through searching the reference lists. After reading the full text, 10 studies were retained. Two authors evaluated the studies, extracted data and conducted quality assessment independently. A total of 10 studies with 2304 patients met the inclusion criteria. Compared with the control group, a low glycemic index diet could control the range of weight gain (WMD -1.01, 95% CI -1.41 to -0.61), decrease the incidence of excessive weight gain (OR 0.69, 95% CI 0.54–0.87), lessen the incidence of large-for-gestational-age infants (OR 0.32, 95% CI 0.16–0.62) and reduce the incidence of preterm infants (OR 0.45, 95% CI 0.29–0.71). **Conclusion:** A low glycemic index or low glycemic load diet could control maternal weight gain, reduce the incidence of excessive weight gain, and decrease the incidence of large-for-gestational-age infants and preterm infants in group with high risk of GDM.

Biography

Leyang Liu, 22 years old, has a bachelor's degree. She is studying at Capital Medical University of China for a master's degree in nursing. Her main research direction is the prevention and management of gestational diabetes mellitus. She has excellent academic performance and has published one SCI paper.

NURIS RODRIGUEZ VARGAS

University of Medical Sciences of Havana,
Cuba

Association of breastfeeding and nutritional status in children aged 7-11 years with high birth weight

Abstract:

Introduction: Obesity, considered as one of the non-communicable chronic diseases, has as its fundamental characteristic its increasingly frequent presence globally, affecting more and more developed and developing countries, both sexes, and all ages and social groups.

Objective: To investigate the benefits of breastfeeding in the prevention of excess malnutrition in children from 7 to 11 years of age with high birth weight.

Methods: A descriptive study was carried out with a case - control design in children born between January 1992 and December 1995, in order to identify early risk factors (atherosclerotic accelerators) such as overweight and obesity in children from 7 to 11 years, who have a history of macrosomia or high birth weight.

Results: Through the study, it was found that, in both their distribution and their average age and sex, in both groups there were no significant statistical differences. While in the average and standard deviation of birth weight if they existed. We also observed the protective effect of breastfeeding in the first 6 months of life on malnutrition due to excess, in addition, the percentage of normal weight was higher than that of malnutrition due to excess.

Conclusions: Breastfeeding is a protector of excess malnutrition (overweight, obesity), independent of birth weight.

DIPAK P. RAMJI

Cardiff University,
UK

Nutraceuticals in the prevention and treatment of atherosclerotic cardiovascular disease: Focus on molecular mechanisms

Abstract:

Atherosclerosis, an inflammatory disorder of medium and large arteries and the underlying cause of myocardial infarction and cerebrovascular accidents, is responsible for more global deaths than any other disease. Although a reduction in morbidity and mortality from atherosclerotic cardiovascular disease has been achieved recently by lifestyle changes and pharmaceutical intervention, this is expected to reverse in the future because of global increase in risk factors such as hypercholesterolemia, obesity, and diabetes. Current pharmaceutical therapies against atherosclerosis are associated with substantial residual risk for cardiovascular disease together with other issues such as side effects. In addition, pharmaceutical agents against many promising targets have proved disappointing at the clinical level. It is therefore essential that the molecular basis of atherosclerosis is fully understood, and new therapeutic/preventative agents or targets are identified and validated. The major focus of recent research in my laboratory is to understand the molecular mechanisms underlying the protective anti-atherogenic actions of natural products using a combination of in vitro and in vivo model systems together with biochemical, molecular biology and immunological approaches. Our research has provided novel insights into the mechanisms underlying the protective actions of several nutraceuticals. This presentation will discuss the molecular basis of atherosclerosis, current therapies against the disease and their limitations, emerging therapies targeting lipid metabolism and the inflammatory response, and the potential of key nutraceuticals as preventative and therapeutic agents together with the molecular mechanisms underlying their actions.

Biography

Dipak Ramji is Professor of Cardiovascular Science and Deputy Head at the School of Biosciences in Cardiff University. He is also a Fellow of the Learned Society of Wales. He received his BSc (Hons) degree (Biochemistry) and his PhD (Molecular Biology) from the University of Leeds. This was followed by post-doctoral research at EMBL (Heidelberg) and IRBM (Rome) with fellowships from the Royal Society and the EU. His current research is focused on understanding how natural products regulate cellular processes in heart disease with the goal of attaining deeper mechanistic insight and identifying preventative/therapeutic agents. He has published over 150 research articles (h index 42 and i10 index 78 with over 8850 citations), including a 880 page book in 2022 on Methods in Atherosclerosis. He is an Editorial Board member of 16 international journals; regular organising committee member, speaker and track/session chair at international conferences on heart disease; involved in grant evaluation for over 20 organisations; and supervised over 25 PhD students.

Long-term Home Enteral Nutrition: Feeding Tube-related Complications and Problems in old age Patients

Abstract:

Introduction: The peak home infusion therapy these days is home enteral nutrition (HEN) or tube feeding. Being used in patients who cannot meet their nutrient requirements by oral intake, yet have a functional gastrointestinal tract, and who are able to receive therapy outside of an acute care setting. The aim of this study was to evaluate the long-term complications, pathogens and problems related to gastrostomy and jejunostomy feeding tubes used for home enteral nutrition support and the effect these have on health care use.

Materials and Methods: The medical records of 50 patients having gastrostomy (28 patients) and jejunostomy (22) feeding tubes inserted in outpatient department were retrospectively studied. All were discharged on long-term (>2 months) enteral nutrition and followed up at regular intervals by a nurse. Any problem or complication associated with tube feeding as well as the intervention, if any, that occurred, was recorded. Data were collected and analyzed

Results: All the patients were followed up for a period of 6 months. The most frequent tube-related complications included inadvertent removal of the tube (broken tube, plugged tube; 55.1%), tube leakage (46.4%), dermatitis of the stoma (36.4%), and diarrhea which are due to some pathogen infections (16.4%). Among the pathogens infections causing diarrhoea *Escherichia coli* was at 30% followed by *Salmonella* spp. And *Shigella* spp. both at 25% and lastly *Campylobacter* spp. at 12%.

Conclusion: In patients receiving long-term home enteral nutrition, feeding tube-related complications and problems are frequent and result in significant health care use. Further studies are needed to address their optimal prevention modalities and management.

An investigation of biomarkers of mixed berry intake

Abstract:

There is increasing interest in food biomarkers to address the shortcomings of self-reported dietary intake. Berries (strawberry and blueberry) are regarded as an important fruit worldwide, however there are no well validated biomarkers of berry intake. Thus, the objective of this study is to identify biomarkers of berry intake in urine using a LC-MS based metabolomic approach.

For the discovery study, participants consumed 192 g strawberries with 150 g blueberries and urine samples were collected at 2, 4, 6 and 24-hours post consumption. A dose-response study was carried where participants consumed 3 portions (78 g, 278 g, and 428 g) of mixed berries. The urine samples were profiled by an untargeted LC-MS metabolomics approach in positive and negative modes. Statistical analysis of the data revealed that 37 features in negative mode and 15 in positive mode significantly increased between fasting and 4-h postprandial samples following mixed berries intake. Following analysis of the dose-response data 21 biomarkers were selected to form a biomarker panel for mixed berry intake. Identification of the biomarkers was performed using the fragmentation matches in databases of METLIN, HMDB and MoNA and in papers. Following this the features with high match scores or sharing the primary MS/MS fragments were verified by authentic standards. The validated biomarkers are furaneol sulfate, syringic acid glucuronide, urolithin A, pelargonidin glucuronide. Most of the biomarkers in the panel were related to the metabolic pathways of phenolic acids, furanones and flavonoids.

Future work will assess the ability of the panel to determine intake.

These biomarkers are frequent and result in significant health care use. Further studies are needed to address their optimal prevention modalities and management.

Biography

Ya Gao is a postdoctoral researcher from University College Dublin. Her interest is to use metabolomics techniques to identify biomarkers of commonly consumed foods.

The main problems of food production and security in the world

Abstract:

Food security implies to have physical and economic access of people to sufficient food and to meet dietary needs for productive and healthy life. Today, more than 800 million people across the world go to bed hungry every night. Most of them depend on agriculture to make living and feed their families. New problems related to climate change and hurting food production and security are: disrupting supply chains and people's ability to access affordable food. Only Improving access to safe and nutritious food and maintaining food security in times of crises is essential in ensuring the prospects of future generations. By using non-wood forest resources (NWFR) we can mitigate these problems with healthy, natural products. The most countries of the world ignore NWFR regarding them incidental natural products. But most Nutritionists well know that wild NWFR are richer with vitamins and other essential minerals and nutrients necessary for human diet than their cultural analogs. Unfortunately NWFR in Georgia, like in the most countries of the world, are neither accounted, nor used and it is an inexcusable overlook of the governments.

Biography

Tamaz Patarkalashvili is a researcher at the Technical University of Georgia, affiliated with the Center Studying Productive Sources and Natural Resources of Georgia. Specializing in the study of productive sources and natural resources, he contributes to research on Georgia's environmental and agricultural landscapes. Patarkalashvili's work aims to enhance understanding of sustainable resource management and its implications for local ecosystems and economies.

Resetting the Brain. Remission of Neurocognitive Diseases is Possible!

Abstract:

For the first time, a large, randomized clinical trial has demonstrated a significant reduction in the risk for developing cognitive decline and dementia. The new research results show aggressive treatment of high blood pressure, resulting in fewer new cases of mild cognitive impairment and dementia. The future of dementia prevention could be in treating the whole person with a combination of drugs and lifestyle changes. The SPRINT MIND trial looked at two different approaches to controlling high blood pressure and diet and how that impacts mild cognitive impairment and dementia. The mediterranean diet emphasizes fruits,vegetables, whole grains, legumes, fish and seafood, unsaturated fats such as olive oils and low amounts of organic red meat, organic eggs and sweets. The more specific diet, called Bredesen diet, is a method of combining intermittent fasting, eating anti-inflammatory foods, promoting gut health and avoiding diary and sugar. Eating foods like green leafy vegetables, fish, nuts and occasionally a glass of red wine can reduce the chances of developing Alzheimer disease. Eating strawberries, blueberries, acai fruit, apples, pears and bananas appears to counteract some of the declines in cognition, that were noticed in the latest research. Among plant protein derived amyloid, there are four legume source that are known to form amyloid-like fibrils: soybean, mung bean, fava bean and lupine. The drinks that improve memory are: black coffee, green tea, kombucha, orange juice, blueberry juice, turmeric latte. Omega 3 fats, mainly DHA compound found in healthy fats, may help prevent Alzheimer disease and dementia by reducing beta-amyloid plaques. Food sources include cold water fish such as salmon, tuna, trout,mackerel, sardines and seaweed. In several pilot studies, a team of US researchers has discovered how vitamin D3, a form of vitamin D and Omega 3 fatty acids may help the immune system clear the brain of amyloid plaques, one of the physical hallmarks of Alzheimer disease. Lemon water is extremely hydrating and keeps the brain and entire body running optimally. Lemon contains high level of potassium, which allows more oxygen to reach the brain and improve functioning. During the day, a person makes some beta amyloid protein builds in the brain. While sleeping, however, brain cells and their connections shrink, allowing more space between the brain cells,and so, beta amyloid and other substances that accumulate during the day, can be flushed away. Amyloids can be reduced by consistent exercises such long walks, by good quality sleep, by reduced salt diet and foot massage. Green tea catechins and resveratrol reduce the formation of plaques in the neural cells. Increase in ketone bodies as a result of fasting may reduce beta amyloid level. Caloric restriction reduces both beta amyloid level and tau. Tau, the microtubule associated protein, forms insoluble filaments that accumulate as neurofibrillary tangles in Alzheimer disease. Beta amyloid peptides are proteolytic fragments of the transmembrane precursor protein, whereas tau is a brain specific, acon enriched microtubule associated protein. The pathological aggregation of tau or neurofibrillary tangles are known as tauopathy, a distinctive characteristic of many humanneurodegenerative disease, such Alzheimer disease or Parkinson disease. Cinnamon can improve memory function and reduce the aggregation of tau proteins. Accordingto researchers at Wheeling Jesuit University, just smelling cinnamon can help improve the memory. Tau lesions occur earlier than beta amyloid accumulation, thereforethe Alzheimer disease progression is strongly associated with tau pathology rather than beta

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amyloid protein accumulation. Tau, the soluble form, composed mostly of monomers and small oligomers are the neurotoxic species.

Turmeric, in its form as Curcumin, the active substance, has a great potential in the prevention and mainly in treatment of Alzheimer disease, due to its properties as an antioxidant, anti-inflammatory and lipophilic action. Drinking warm water before going to bed increases blood circulation, helps the body to break down the waste and increases the sweat output. Sweating will cause some fluid loss, but it will also remove the salts and toxins and clean the skin cells. Eating at specific times of the day could delay and even reverse the signs of Alzheimer disease. Intermittent fasting (18-22 h a day and eating in a window of 2 h only) stimulates autophagy. Autophagy is a process where cells clean out damaged materials, and to rid the brain of toxic proteins like amyloid and tau, for example. Intermittent fasting can help increase the resistance of the brain to oxidative stress and inflammation. The overall goal of Bredesen protocol is to remove exposure triggers that lead to cognitive decline, optimize health support and rebuild the neural network. Fat burning, based on minimum 12 h, exercising 30 minutes daily and eating a plant rich, fiber rich, low

Biography

Cristina Mocanu is a dedicated medical professional affiliated with Titu Maiorescu University's Faculty of Medicine in Bucharest, Romania. With a passion for healthcare and academic excellence, she actively contributes to medical education and research. Cristina Mocanu specializes in [insert specific area of expertise], combining theoretical knowledge with practical skills to advance patient care. Her commitment to improving health outcomes underscores her role as a valued member of the university's medical faculty.

Healthy environment for cows, good milk for humans. Fatty acids composition of milk from cows grazing at different altitudes.

Abstract:

The composition of fatty acids (FAs) in lipids and phospholipids has been extensively researched due to its potential impact on human health. The Federation of European Nutrition Societies recommends restricting dietary saturated fatty acids (SAFA) while highlighting the importance of replacing them with polyunsaturated fatty acids (PUFA) to mitigate the risk of cardiovascular disease (CVD). SAFA consumption is recognized as a significant risk factor for CVD due to its association with elevated blood cholesterol levels. Moreover, substituting trans-fatty acids with PUFA has shown the most beneficial effect on reducing low-density lipoprotein-cholesterol (LDL-C) and thereby lowering the risk of CVD. Numerous strategies have been employed to develop lipids enriched in beneficial PUFA. Notably, various fungi and marine microalgae can produce relatively high proportions of omega-3 FAs, particularly eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Regarding lipids in animal-derived foods, the environment in which animals reside can significantly influence the FA composition of products such as eggs and milk. For instance, we present an example of how different feeding practices for cows, such as grazing at varying altitudes in the Alpine region or being fed a typical cowshed diet, can impact the fat content and composition of cow milk.

Biography

Dr. Francesco Secundo, obtained the Laurea in Biological Sciences at the University of Milano in 1992 and he has been conducting research activity at the National Research Council of Italy (CNR), in Milan, since 1986. His research activity is documented by 130 articles on international journals (H-index 31, WoS). His research work has dealt with the use of enzymes for several biotechnological purposes. His current research interest is in the study of lipids obtained from microalgae grown in different conditions and lipids modification by lipases.

Agro-industrial by-products as a sustainable source of bioactive and nutritive compounds

Abstract:

The disposal of food processing by-products represents a significant problem for industries, being a considerable cost for the food processing company and causing serious pollution problems. In recent years, scientific literature has demonstrated that agroindustrial by-products have a high content of nutrients and bioactive compounds, leading to a loss of valuable biomass and nutrients. Therefore, the recovery of food industry by-products from waste has acquired growing interest, becoming a promising source of potentially valuable bioactive compounds. At the same time, consumers' increasing attention towards a balanced diet and healthy ingredients has led to an exponential growth in the market for plant-based products. Since potatoes (*Solanum tuberosum*) are the fourth most consumed food in the world and the potato processing industry generates large quantities of waste, mainly consisting of peels, these are a candidate as an inexpensive by-product, becoming a valuable and economical raw material for the production of substances with high added value and the extraction of essential food products, including nutrients, fibres and antioxidants. Therefore, the present study aims to investigate the biochemical and nutritional composition of the peels of different potato cultivars and evaluate them as a sustainable source of healthy ingredients.

Biography

Dr. Giorgia Sarais is a researcher at the Department of Life and Environmental Sciences, University of Cagliari, Italy. Her work focuses on environmental biology and conservation. Dr. Sarais has contributed significantly to the understanding of ecosystem dynamics and biodiversity. She is known for her interdisciplinary approach, integrating field studies with advanced analytical techniques to address ecological challenges

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