



The International Society for Nutraceuticals and Functional Foods



ISNFF Newsletter
July 2022

Volume 15, Issue 1

CONTENT

Message from the ISNFF.....	2
ISNFF 2022.....	3
Preliminary Scientific Topic of ISNFF 2022.....	4
Plenary Speakers of ISNFF 2022.....	5
Scientific Review Articles.....	6
Upcoming Nutraceuticals and Functional Foods Events.....	10
New Titles.....	11
ISNFF Journals.....	15
Membership Application Form for 2022.....	16

MESSAGE FROM THE ISNFF

Warm greetings from the ISNFF! We have had a challenging couple of years due to the COVID-19 pandemic and with appearance of OMICRON, BA.4 and BA.5 we are yet again struggling with community spread and effects on our daily lives. However, life must go on and we recommend that wearing mask and vaccination are very important in minimizing the risk of being infected. So please take all the necessary precautions to reduce the risk.

The 2021 ISNFF Conference and Exhibition that was held October 17-20th in Nanjing, China was quite successful; thanks to the dedication and hard work of our hosts and their efforts in organizing this event in a hybrid form. The scientific sessions had 118 oral and 75 poster presentations. There were 21 countries and regions present with some 300 participating in person and 110 international speakers/participants as well as over 2,000 joining on line.

The 2022 ISNFF Conference and Exhibition is all in-person and will be held in the beautiful historical city of Istanbul, Turkey. In addition to the scientific sessions, we have exhibitors and service providers. We will have 20 student awards as well as Merit Awards, and Fellow Awards, among other activities. We also plan to have scientific/industry sessions complemented by technical and cultural tours to make this a memorable event for all participants. Please note your calendar for October 2-5 in Crowne Plaza Hotel Asia in Istanbul You will enjoy the hospitality and the Gala Dinner will be on board while touring the Bosphorus.

Please stay safe, take advantage of traditional foods that are known for their health benefits, and strengthening of your immune system. Take care of yourself, your families, and your friends so that we can overcome this hurdle of a lifetime. We look forward to seeing you in Istanbul where you meet friends from the past and make new ones in this unique gathering of experts in the field.

Dr. Fereidoon Shahidi (Principal Founder and Executive Board Member of ISNFF)

Dr. Rotimi Aluko (Chair of ISNFF)

ISNFF 2022

The 2022 ISNFF Conference and Exhibition will be held in Crowne Plaza Istanbul Asia Hotel and Convention Centre between October 2 and 5, Istanbul, Turkey.

The hotel is located in the heart of the city's industrial district on the Asian side of Istanbul and just a short walk to Via Port (the biggest Outlet Shopping Centre of Istanbul). Ideally, it is situated for the business and leisure travellers. It is only 5 km away from Sabiha Gökçen International Airport and 56 km from Istanbul International Airport. The hotel provides free shuttle service to Sabiha Gökçen International Airport hourly. Regular bus services between the two international airports are also available.



ISNFF 2022
Istanbul, TÜRKİYE
2-5 October 2022
Please set your time for October 2, 2022

Due to problems with last minute submission by many and some other site issues, the abstract submission deadline has been extended until August 3, 2022.

Important Dates

Abstract Submission Deadline
August 3, 2022

Notification of Acceptance
August 4, 2022

Earlybird Registration Deadline
August 05, 2022

Abstract submission and registration can be carried out at ISNFF official web-site (<https://www.isnff.org/en/1472-isnff-2022-conference>)



The International Society for Nutraceuticals and Functional Foods

ISNFF

2022 Annual Conference & Exhibition
Functional Foods, Nutraceuticals, Natural Health
Products and Dietary Supplements
October 2-5 2022 / Istanbul-Turkey

75 01 : 03 : 12

Register Now Submit Abstract Download Brochure

PRELIMINARY SCIENTIFIC TOPICS OF ISNFF 2022

Scientific Topics

- ▶ Traditional functional foods, nutraceuticals, and natural health products
- ▶ Processing and bioprocessing of functional food ingredients
- ▶ Absorption, bioavailability, metabolism, and health effects of bioactives
- ▶ Analysis of nutraceuticals and functional food ingredients
- ▶ Delivery of nutraceuticals and functional food ingredients including nanotechnology
- ▶ Stability and stabilization of functional foods and natural health products
- ▶ Immune function and inflammation
- ▶ Functional food ingredients and nutraceuticals in brain health, cancer chemoprevention, and cardiovascular disease
- ▶ Enteral, elderly, and personalized nutrition
- ▶ Pre- and probiotics, gut microbiota, and gastrointestinal diseases
- ▶ Diabetes and metabolic syndrome, obesity, and weight control
- ▶ COVID-19 and other viral diseases: Role of phytochemicals and traditional remedies
- ▶ Phenolics and polyphenolics: Chemistry, biochemistry, nutrition, bioavailability, and metabolism
- ▶ Bioavailability of dietary polyphenols
- ▶ Natural antioxidants and prooxidants (phenolics, carotenoids/xanthophylls, etc.)
- ▶ Fermented foods
- ▶ Functional proteins and biopeptides
- ▶ Functional lipids (omega-3, structured lipids, etc.) and carbohydrates
- ▶ Cosmeceuticals and skin health
- ▶ Regulatory and import-export issues for nutraceuticals, functional food ingredients, and dietary supplements
- ▶ Nutrigenomics, proteomics, and metabolomics
- ▶ Nutraceuticals and functional food ingredients from co-products and processing by-products
- ▶ Pre-clinical and clinical trials for functional foods and nutraceuticals
- ▶ Dietary supplements, herbal, and natural health products
- ▶ R&D and industry perspectives
- ▶ Marine and algal products and by-products
- ▶ Omega-3 fatty acids, nutritional oils and lipidomics
- ▶ Nutraceuticals and functional beverages
- ▶ Regulatory issues and health claims
- ▶ Zero waste processing and value-added utilization of processing by-products
- ▶ Mediterranean diet, olive oil and products, honey, and beewax
- ▶ Voluntary papers on other topics (oral and poster)

Plenary Speakers



**Dr. Fereidoon
Shahidi**
CANADA



**Dr. Francisco A.
Tomás Barberán**
SPAIN



Dr. Pingfan Rao
CHINA



**Dr. Alejandro
Marangoni**
CANADA



Dr. Kazuo Miyashita
JAPAN



Dr. Mauro Serafini
ITALY



Dr. Ian Newton
CANADA



Dr. Paul Kroon
UK



**Dr Dragan
Milenkovic**
USA

SCIENTIFIC REVIEW ARTICLES

The influence of some food related factors on carotenoid availability and its impact on human health: a snapshot on durum wheat pasta carotenoids



Dr. Trust Beta
Professor
Department of Food and Human Nutritional Sciences,
University of Manitoba, Winnipeg, MB R3T 2N2, Canada



Hannah Oduro-Obeng
PhD candidate
Department of Food and Human Nutritional Sciences,
University of Manitoba, Winnipeg, MB R3T 2N2, Canada

Carotenoids are natural plant pigments primarily found in high concentrations in fruits and vegetables, some animal species, and to a lesser extent, some photosynthetic organisms such as bacteria and fungi [1]. Nonetheless, due to regular and high consumption of cereal grains and their products among many cultures in the world, humans stand to gain largely from the health benefits of these bioactive compounds. A classic example of a rich source of grain carotenoids is durum wheat. Its main utilization is in the production of pasta, a nutritious, safe, and convenience food product. Carotenoids such as lutein and zeaxanthin found in durum wheat, have been extensively reported among many epidemiological and observational studies for their functional role in promoting health and preventing certain non-communicable diseases including some cancers, stroke, and cardiovascular diseases through their antioxidant and /or anti-inflammatory properties [2, 3]. Worthy of mention is their protection against age-related macular degeneration and cataract through the absorption of damaging blue light [4]. To be able to reach target organs however, carotenoids including their changed chemical derivatives need to be available after food processing. Moreover, following consumption and throughout digestion, several factors influence the potential absorption of carotenoids. As wheat is primarily milled before consumption, the effect of food processing on the food matrix and the uneven distribution of biochemical and/ or biopolymer components and their interaction may affect digestion and absorption efficiency of these carotenoids and subsequently influence their bioavailability. In a more recent study conducted by Hannah Oduro-Obeng and coauthors [5], it was revealed that increased extractability of carotenoids in pasta products cooked to different cooking times did not translate to increased bioaccessibility *in vitro*. The influence of food processing such as cooking time, the source of wheat (durum wheat cultivar), the food type or matrix (whole wheat flour versus refined semolina) and the carotenoid type all modulate the bioaccessibility of these bioactive molecular species and inferentially may dictate their human health benefits. For further information on the above study and to also find more information on research work in grain-based functional foods from Professor Trust Beta's lab, please visit our latest article published in the journal, *Food and Function* (for which we were featured on the journal cover) here: <https://lnkd.in/gnBC6Wjc> and <https://sciani.com/portfolio/grain-based-functional-foods-carbohydrate-phytochemical-components/>

References

- [1] F. Delgado-Vargas, A. R. Jiménez, and O. Paredes-López, "Natural Pigments: Carotenoids, Anthocyanins, and Betalains — Characteristics, Biosynthesis, Processing, and Stability," *Critical Reviews in Food Science and Nutrition*, vol. 40, no. 3, pp. 173-289, 2000/05/01 2000.
- [2] G. Maiani *et al.*, "Carotenoids: actual knowledge on food sources, intakes, stability and

bioavailability and their protective role in humans," *Mol Nutr Food Res*, vol. 53 Suppl 2, no. S2, pp. S194-218, Sep 2009.

- [3] N. I. Krinsky and E. J. Johnson, "Carotenoid actions and their relation to health and disease," *Molecular aspects of medicine*, vol. 26, no. 6, pp. 459-516, 2005.
- [4] R. A. Bone *et al.*, "Distribution of lutein and zeaxanthin stereoisomers in the human retina," *Experimental eye research*, vol. 64, no. 2, pp. 211-218, 1997.
- [5] H. Oduro-Obeng, F. B. Apea-Bah, K. Wang, B. X. Fu, and T. Beta, "Effect of cooking duration on carotenoid content, digestion and potential absorption efficiencies among refined semolina and whole wheat pasta products," *Food & Function*, 10.1039/D2FO00611A vol. 13, no. 11, pp. 5953-5970, 2022.

Emerging sources and applications of alternative proteins



Dr. Jianping Wu
Professor
Department of Agricultural, Food and Nutritional Sciences,
4-10 Ag/For Building, University of Alberta, Edmonton,
Alberta T6G 2P5, Canada

Protein is an essential macronutrient that humans cannot synthesize and must be obtained from foods, and adequate food protein intake is indispensable for optimal growth and health. Even though most people in the developed world have sufficient protein intake from their diets, however, protein deficiencies continue to be pervasive globally. There is approximately 1 billion people worldwide that have inadequate protein intake; especially for infants and children, protein deficiency is the single major factor responsible for impaired growth and suboptimal health worldwide [1]. Animal proteins are superior to plant proteins in terms of quality, but animal protein production is inefficient and resource intensive; for example, livestock production uses 77% agricultural land and one-third fresh water, and generates ~58% greenhouse gas emissions of all food production while providing only ~18% of calories and ~37% of total protein [2]. Despite this, a 76% increase in global meat consumption is projected by 2050, which is driven by population growth and increase in average individual incomes.

Broadly speaking, alternative proteins are alternatives to conventional animal proteins. They include plants (i.e., grains, legumes, pulse, and nuts), fungus (i.e., mushrooms), algae, insects and cultured (lab-grown) meat. Most alternative proteins are not new to humans as they have been an integrated part of the diet for centuries in some regions. Soy proteins are the dominant plant protein in the food industry due to their exceptional functionalities compared to other plant proteins; pulse proteins especially pea proteins are considered strong contenders to soy proteins, while canola proteins are an emerging one. With a protein content ranging from ~8% (rice) to ~12% (wheat), cereals have been overlooked as a significant source of proteins [3]. As the staple foods, cereals provide more than half of the total protein production in the world, especially in developing countries where cereal proteins can account for as much as 70 to 90% of the total protein consumption [4]. Cereal processing generates a great deal of by-products, such as rice bran and broken rice, brewers' spent grain and vinasse that are promising sources of proteins.

Insects are the most diverse of all animals. Insects have been eaten as food throughout the history of humanity, and continue to play a role in the diet of at least two billion people worldwide [5]. There is a growing interest in edible insects worldwide as they provide an ideal solution to address protein sustainability and environmental concerns, due to their high fecundity, short reproductive cycle, high efficiency of feed conversion, and low level of greenhouse gases emission [6]. Single-cell proteins (SCP) refer to a wide range of microbial proteins from yeast, fungi, algae and bacteria. SCP production has advantages in terms of high efficiency in substrate conversion, high rate of multiplication, independence of seasonal factors, and the ability to use a variety of raw materials (mostly agricultural, forestry and food by-products and waste). However, commercial activities are still limited due to high capital and operating costs along with approval costs. Cultured meat, also called in vitro meat, is the new protein addition to the human diet. They are produced by growing stem cells collected from animals (livestock animals and fish) in a bioreactor; cellular agriculture is a term widely used to describe the process of farming animal products from cells instead of animals [7].

Most alternative proteins, except for canola protein and cultured meat, have been a part of human diet for centuries. Humankind has developed traditional methods to include them into their diet, while modern uses of alternative proteins are first to fractionate protein, and then to be incorporated in a wide range of food products such as cereal products, beverage, meat products, powder, and supplements. The major application of alternative proteins is to replace animal proteins, in particular for use as meat

alternatives. The multifaceted functionalities of food proteins hold promise for uses as emerging protein-based biomaterials, and as excellent sources of bioactive peptides for improving human health or preventing chronic diseases.

A transition to alternative proteins, such as plant, insect, fungal and microbial proteins, provides a promise to feed an estimated 10 billion people in 2050 [8]. Human consumption of alternative proteins remains limited, due largely to inferior organoleptic properties. Alternative proteins are new to some cultures but not to humankind as a whole. Instead of focusing largely on mimicking the structure and taste of animal proteins, which are perceived as ultra-processed and costly, we need to learn from the wisdom of the traditional methods of processing and utilization to develop culturally diversified alternative proteins in order to mitigate global protein malnutrition. Consumer acceptance of alternative proteins also changes as we develop better understanding of culturally diversified alternative proteins. Readers are encouraged to refer to a recently published book for more information [9].

References

- [1] Ghosh, S., Suri, D., & Uauy, R. (2012). Assessment of protein adequacy in developing countries: quality matters. *British Journal of Nutrition*, 108(S2), S77-S87.
- [2] Food and Agriculture Organization (FAO) of the United Nations. (2020). Food Supply. Retrieved from <http://www.fao.org/faostat/en/#data/FBS>. [Online Resource]
- [3] Poutanen, K. S., K arlund, A. O., G omez-Gallego, C., Johansson, D. P., Scheers, N. M., Marklinder, I. M., ... & Landberg, R. (2022). Grains—a major source of sustainable protein for health. *Nutrition Reviews*, 80(6), 1648-1663.
- [4] Lasztity, R. (2017). *The Chemistry of Cereal Proteins*. (2nd ed.). CRC Press.
- [5] van Huis, A., van Itterbeeck, J., Klunder, H., et al. (2013). Edible insects: future prospects for food and feed security, FAO, Rome, 2013. Retrieved from <https://www.fao.org/3/i3253e/i3253e.pdf>. [Online Resource]
- [6] Dunkel, F. V., & Payne, C. (2016). Introduction to edible insects. In A. T., Dossey, J. A., Morales-Ramos, & M. G. Rojas (Eds.), *Insects as Sustainable Food Ingredients* (pp. 1-27). Academic Press.
- [7] Cellular Agriculture Society (2022). Retrieved from <https://www.cellag.org/>. [Online Resource]
- [8] Willett, W., Rockstr m, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., ... & Murray, C. J. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), 447-492.
- [9] Wu, J. (2022), *Emerging sources and applications of alternative proteins*, in F. Toldr  (Serail Ed.) *Advances in Food and Nutrition Research*, Vol. 101. Amsterdam: Elsevier.

UPCOMING NUTRACEUTICALS AND FUNCTIONAL FOODS EVENTS

September 2022

28-30, 15th Annual Meetings of Polyphenols Applications 2022, Valencia, Spain

October/November 2022

2-5, Annual Conference and Exhibition of International Society for Functional Foods and Nutraceuticals (ISNFF), Istanbul, Turkey

20-21, NUTS 2022, Reus, Spain

31 Oct – 3 Nov, IUFoST World Congress, Singapore.

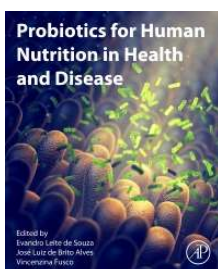
December 2022

6-11, International Union of Nutritional Sciences, Tokyo, Japan

April-May 2023

30th April-3rd May, American Oil Chemists' Society Annual Meeting & Expo, Denver, USA

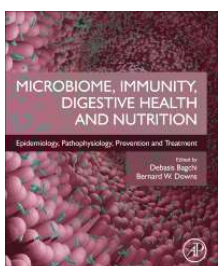
NEW TITLES



Probiotics for Human Nutrition in Health and Disease
1st Edition - June 1, 2022

Editors: Evandro Leite de Souza, José Luiz de Brito Alves, Vincenzina Fusco

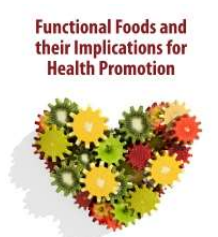
Academic Press-Elsevier



Microbiome, Immunity, Digestive Health and Nutrition
Epidemiology, Pathophysiology, Prevention and Treatment
1st Edition - June 1, 2022

Editors: Debasis Bagchi, Bernard Downs

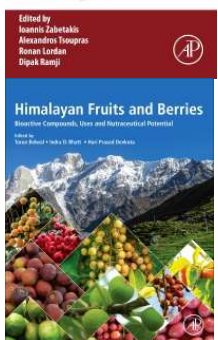
Academic Press-Elsevier



Functional Foods and their Implications for Health Promotion
1st Edition - June 1, 2022

Editors: Ioannis Zabetakis, Ronan Lordan, Alexandros Tsoupras, Dipak Ramji

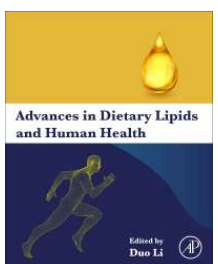
Academic Press-Elsevier



Himalayan Fruits and Berries
Bioactive Compounds, Uses and Nutraceutical Potential
1st Edition - May 2, 2022

Editors: Tarun Belwal, Indra Bhatt, Hari Devkota

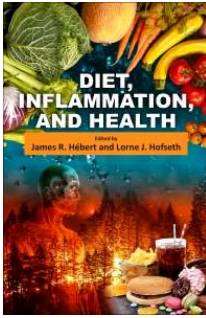
Academic Press-Elsevier



Advances in Dietary Lipids and Human Health
1st Edition - May 1, 2022

Editor: Duo Li

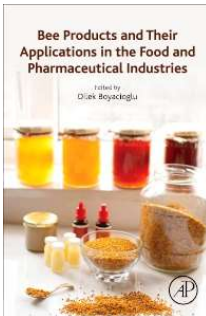
Academic Press-Elsevier



Diet, Inflammation, and Health
1st Edition - April 25, 2022

Editors: James Hebert, Lorne Hofseth

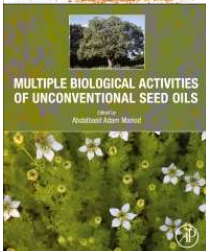
Academic Press-Elsevier



Bee Products and Their Applications in the Food and Pharmaceutical Industries
1st Edition - April 14, 2022

Editor: Dilek Boyacioglu

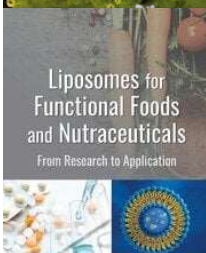
Academic Press-Elsevier



Multiple Biological Activities of Unconventional Seed Oils
1st Edition - January 26, 2022

Editor: Abdalbasit Mariod

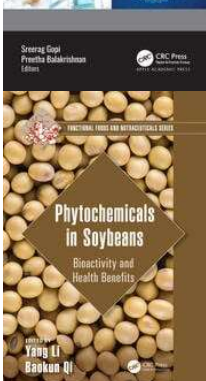
Academic Press-Elsevier



Liposomes for Functional Foods and Nutraceuticals
From Research to Application
1st Edition, 2022

Editors: [Sreerag Gopi](#), [Preetha Balakrishnan](#)

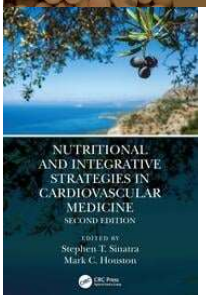
CRC Press/ Apple Academic Press



Phytochemicals in Soybeans
Bioactivity and Health Benefits
1st Edition, 2022

Editors: [Yang Li](#), [Baokun Qi](#)

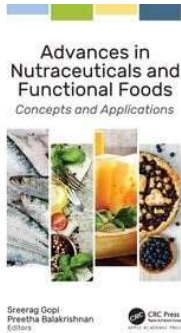
CRC Press



Nutritional and Integrative Strategies in Cardiovascular Medicine
2nd Edition, 2022

Editors: [Stephen T. Sinatra](#), [Mark C. Houston](#)

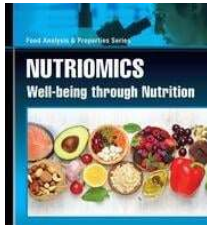
CRC Press



Advances in Nutraceuticals and Functional Foods
Concepts and Applications
1st Edition, 2022

Editors: [Sreerag Gopi](#), [Preetha Balakrishnan](#)

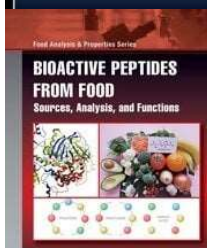
CRC Press



Nutriomics
Well-being through Nutrition
1st Edition, 2022

Editors: [Devarajan Thangadurai](#), [Saher Islam](#), [Leo M.L. Nollet](#), [Juliana Bunmi Adetunji](#)

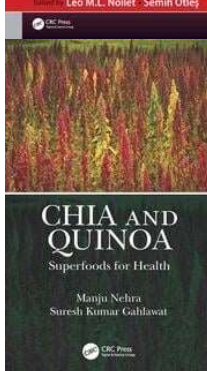
CRC press



Bioactive Peptides from Food
Sources, Analysis, and Functions
1st Edition, 2022

Editors: [Leo M.L. Nollet](#), [Semih Ötles](#)

CRC press



Chia and Quinoa
Superfoods for Health
1st Edition, 2022

Authors: [Manju Nehra](#), [Suresh Kumar Gahlawat](#)

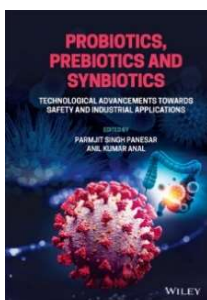
CRC Press



Handbook of Nutraceuticals and Natural Products
2 Volume Set
2022

Editors: [Sreerag Gopi](#), [Preetha Balakrishnan](#)

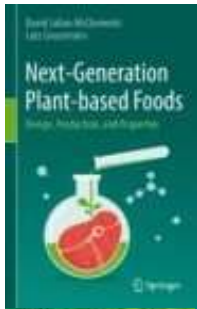
Wiley



Probiotics, Prebiotics and Synbiotics: Technological Advancements Towards Safety and Industrial Applications
2022

Editors: [Parmjit Singh Panesar](#), [Anil Kumar Anal](#)

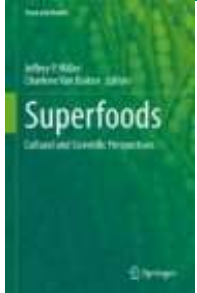
Wiley



Next-Generation Plant-based Foods
Design, Production, and Properties
2022

Editors: David Julian McClements, Lutz Grossmann

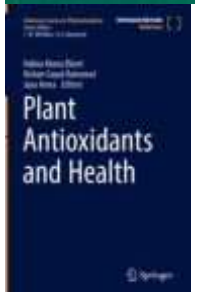
Springer



Superfoods
Cultural and Scientific Perspectives
2022

Editors: Jeffrey P. Miller, Charlene Van Buiten

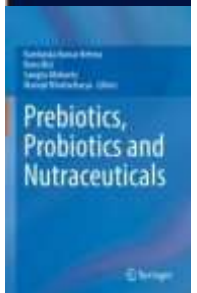
Springer



Plant Antioxidants and Health
2022

Editors: Halina Maria Ekiert, Kishan Gopal Ramawat, Jaya Arora

Springer



Prebiotics, Probiotics and Nutraceuticals
2022

Editors: Kambaska Kumar Behera, Renu Bist, Sangita Mohanty, Manojit Bhattacharya

Springer

ISNFF JOURNALS

Journal of Food Bioactives (JFB)

The JFB, a dedicated publication of ISNFF, was launched in 2018 and has attracted state-of-the-art contributions (reviews and original manuscripts) from globally eminent scientists. Papers presented during ISNFF Conferences and Exhibition may be submitted for publication consideration to the Journal of Food Bioactives (isnff-jfb.com). To review the published manuscripts please refer to the journal website or that of the isnff (isnff.org). Volume 18 has just been released and it includes a white paper about COVID 19 and post-COVID research needed through dietary means.

Website: <http://www.isnff-jfb.com/index.php/JFB>

Journal of Functional Foods (JFF)

The very first issue of the JFF, as the first publication, proposed by ISNFF, as a joint undertaking with Elsevier, was first released in October 2008 (dated January 2009). This journal, the Official Scientific Journal of ISNFF, overtaken by Elsevier, was founded by Professor Fereidoon Shahidi who now serves as its Founding Editor. Dr. Shahidi is also the principal Founding Member of ISNFF and the Nutraceuticals and Functional Food Division of IFT.

Website: <https://www.journals.elsevier.com/journal-of-functional-foods>

Impact Factor (2021): 5.223



International Society
for Nutraceuticals & Functional Foods

MEMBERSHIP APPLICATION 2022

Last Name: _____		First Name: _____	
Membership #: ISNFF-			
Company / Institution / University:			
Address:			
Telephone: () _____		Fax: () _____	
Email address:			

New Membership		<input type="checkbox"/>	
Renewal		<input type="checkbox"/>	
Cancel Membership		<input type="checkbox"/>	
Member	\$95	<input type="checkbox"/>	
Student Member	\$45	<input type="checkbox"/>	
Corporate Member	\$2,000	<input type="checkbox"/>	
Corporate Member (Renewal)	\$500	<input type="checkbox"/>	
Affiliate and Chapter Member	\$2,000	<input type="checkbox"/>	
Payment Method:			
Money Order:		<input type="checkbox"/>	
Credit Card:	VISA <input type="checkbox"/>	MASTERCARD <input type="checkbox"/>	
Credit Card #:	_____		
Card Holder:	_____		
Expiry Date:	_____		
<p>Please complete form and return to:</p> <p>ISNFF, P.O. Box 29095, 12 Gleneyre Street, St. John's, NL, A1A 5B5 Canada Or scan and forward by Email: ISNFFsecretary@gmail.com</p>			