



## International Society for Nutraceuticals and Functional Foods

ISNFF Newsletter  
December 2015

Volume 8, Issue 2

### Message from the ISNFF

We are only weeks away from the holiday season and it is timely to wish you and yours all the best for 2016 with complete success, health, and happiness. The year 2015 was yet another successful year for the **International Society for Nutraceuticals and Functional Foods (ISNFF)**. The Annual Meeting, held in Wuxi, China from September 20 to 23, 2015, was outstanding with 756 participants from around the globe. Some 30 countries and regions participated in the meeting which exceeds the previous record of 703.



The Annual General Meeting of the ISNFF was held on September 22, 2015 and since this was not an election year, the executives remain with Dr. Chin-Kun Wang as the Chair, Dr. Debasis Bagchi as the Past Chair, Dr. Cesarettin Alasalvar as the Chair Elect, Dr. Ronald Pegg as the Secretary, and Dr. Rotimi Aluko as the Treasurer. The other executive Board members include Dr. Chi-Tang Ho and Dr. Fereidoon Shahidi. The members-at-large that will continue in this capacity are Dr. Kazuo Miyashita from Japan, Dr. Gow-Chin Yen from Taiwan, Dr. Se-Kwon Kim from the Republic of Korea, and Colin Barrow from Australia.

The *Journal of Functional Foods*, the official journal of the ISNFF, also had a successful year with receiving an impact factor (IF) of 3.529, which places it in the fifth on the top of over 100 journals in the field. We are grateful to all those who contributed to this success. The Associate Editors Dr. Rotimi Aluko, Dr. Peter Roupas, Dr. James Seiber and Mingfu Wang as well as all members of the JFF Editorial Board, especially Dr. Chi-Tang Ho, are to be commended for their excellent efforts! I should also take the opportunity to thank all of the reviewers of the journal, without whom the work would not have been possible.

For 2016, the Annual Conference and Exhibition of the ISNFF will be held in Orlando, Florida, from October 8 to 13 in the Rosen Shingle Creek Hotel (9939 Universal Blvd). The main conference and exhibition begin with registration in the afternoon of October 9 and will end in the evening of October 12. October 8 and 9 are dedicated for Pre-conference short courses. These are on Antioxidants: fundamentals, delivery systems, applications and oxidation control as well as a second short course on Gut health: prebiotics, probiotics and gut microbiota. October 13 is reserved for optional technical and cultural tours. Professor Yu Wang of the University of Florida will act as the local conference contact. We look forward to seeing you all at our exciting Annual Meeting in 2016.

Fereidoon Shahidi, ISNFF

## The 8th International Conference and Exhibition for Nutraceuticals and Functional Foods

2015.9.21



The 2015 Annual Conference and Exhibition of the International Society for Nutraceuticals and Functional Foods (ISNFF) were held at World Hotel Grand Juna in Wuxi, China, September 20 to 23, 2015. This event was co-organized, mainly, with Jiangnan University, the home of the largest food science program in the world with some 2000 students and 160 faculty.



This conference included participation of delegates from 30 countries and regions with 10 plenary, 153 oral, and 253 poster presentations; these were scheduled into 3 plenary, 27 oral, and 3 poster sessions, respectively. The talks delivered were from world-renowned experts in their respective fields, bringing to the audience state-of-the-art information and the latest developments in the functional foods and nutraceuticals sector. This year's event also included a special symposium entitled "Food Science to Functional Foods and Health" to honor Professor Xiaolin Ding on his 80<sup>th</sup> birthday. In total, well over 750 registrants attended the

Annual Meeting and Exhibition of the ISNFF.

The 2015 Annual Conference and Exhibition began with a cultural show that followed the official opening of the conference with welcoming remarks from Dr. Chen Jian, the president of Jiangnan University, Ms. Meng Suhe, The President of the Chinese Institute of Food Science and Technology (CIFST), Academician, Prof. Sun Baoguo as well as Dr. Bo Jiang, the local conference chair and Professor Fereidoon Shahidi (Conference Co-Organizer and Principle Founder of ISNFF). In the evening of September 21, the Gala Dinner and Award presentation took place with live shows and music. The Annual General Meeting of the ISNFF and Editorial Board Meeting of the *Journal of Functional Foods* were held on September 22<sup>nd</sup> over the lunch break. The meeting ended in the evening of September 23<sup>rd</sup> with a book draw, and student poster/oral award presentations.

The ISNFF Award Recipients for 2015 were as follows:

- The Merit Award was bestowed to Dr. Bo Jiang (Jiangnan University, China) and Dr. Debasis Bagchi (Houston University, USA) for their outstanding contributions to the nutraceuticals and functional foods and service to the ISNFF.

- The Industry/Institution Merit Award was presented to Longrich Company (China) for their active role in nutraceutical and particularly cosmoceutical research and development and support of ISNFF.
- The recipient of the Fereidoon Shahidi Fellowship Award was Jia-Ching Wu from Cheng Kung University in Taiwan. He had published 11 papers and one book chapter with excellent academic performance.
- The best student poster presentation winners of the Prof. Wang Zhang Fellowship Award were: Xiaobo Wang from The Chinese University of Hong Kong, Hong Kong (First Prize); Fei Huang from Sericultural & Agri-Food Research Institute Guangdong Academy of Agricultural Sciences, China; Jia-Ching Wu from Taiwan University, Taiwan (Second Prize); Li Liu from Jiangnan University, China; Ting Wang from Dalian Polytechnic University, China; Li-Yun Lin from Chung Shan Medical University, Taiwan (Third Prize).
- The best student oral presentation winners of Prof. Wang Zhang Fellowship Award were Danyue Zhao from The University of Hong Kong, Hong Kong; Lin Lei from The Chinese University of Hong Kong, Hong Kong (First Prize); Ana María Leal-Díaz from Mexico Tecnológico de Monterrey, Mexico; Juqing Huang from Zhejiang University, China (Second Prize); Yaqi Lan from Rutgers Univeristy, USA; Tomas Lafarga from Teagasc- The Irish Agricultural and Food Development Authority, Ireland; Erasto Mlyuka from Jiangnan University, China (Third Prize); Peng Xue from Chinese Academy of Agricultural Sciences, China; Shuailing Yang from Jilin University, China; Fang Chen from Fuzhou University, China; Fang Chen from Nanchang University, China; Xujun Chen from East China University of Science and Technology, China; Xiaoxiao Li from Jiangnan University, China (Fourth Prize).

The conference benefited from the generous sponsorship of several companies and institutions/societies, both financial and otherwise. The donors included Amway/ Nutrilite Health Institute, Clinical Trial Center for Functional Foods of South Korea, Japan Natural Laboratories Co. Ltd., Almond Board of California, Bunge (USA) and Yiming Biological Products Co., Ltd (China), Jiangsu Longrich Bioscience Co., Ltd (China), Jiangsu Liangfeng Food Group (China), Wenzhou Longqiang Dairy Products Machinery Plant (China) and Bunge Oil Inc. The ISNFF is extremely grateful to these companies/associations for their generous contributions. In addition, among the exhibitors were the ISNFF, Elsevier Publishing Company, Yiming Biological Products Co., Ltd (China), Jiangsu Longrich Bioscience Co., Ltd (China), Zhejiang Jianfeng Health Technology Co., Ltd. (China), Jiangyin Suxin Drying Equipment Co., Ltd. (China), Shanghai Wentek Photonics Technology Co., Ltd. (China), Tianjin UBasicHealth Biological Technology Co., Ltd. (China) and others.

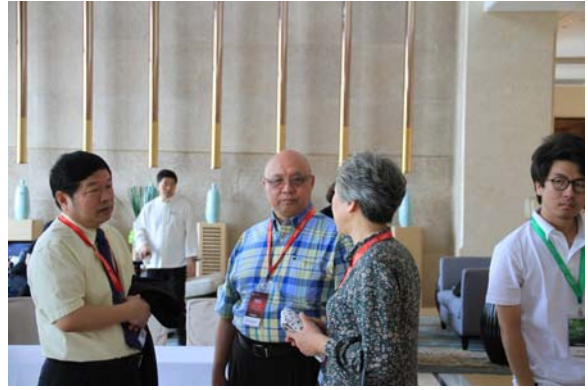
On behalf of the ISNFF, we greatly appreciate your contributions and those of the sponsors, exhibitors, and participants at the conference. We look forward to seeing you at the next ISNFF meeting in Orlando, Florida.

Dr. Bo Jiang (Conference Co-Organizer and Local Secretariat Chair)

Dr. Fereidoon Shahidi (Conference Co-Organizer and ISNFF Principle Founder)



Images from the 8<sup>th</sup> International Conference & Exhibition for Nutraceuticals and Functional Foods



## Omega-3 Oils – Are they Beneficial to Health?

Fereidoon Shahidi

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The beneficial health effects of omega-3 oils, seafood and algal/fungal sources containing them have been acknowledged for the last 4 decades and many supportive documents have appeared in the literature. However, there have also been challenges about aspects of these benefits, some of which are based on “tunnel vision” of the authors or “biased” opinion or analysis of the results or their selection of criteria or including no-effect results due to the fact individuals were taking drugs that overwhelm their effects. What is definite about omega-3 oils is that, with respect to cardioprotection, there is no doubt that they effectively reduce serum triacylglycerols (triglycerides) and also render a positive effect on the incidence and severity of arrhythmias. In addition, the role of long-chain omega-3 polyunsaturated fatty acids (LC n-3 PUFA), docosahexaenoic acid (DHA), in the development of the fetus, particularly with respect to the role they play in the building of organs with electrical activity such as the brain, the retina of the eye and the heart is well-evidenced and they are provisionally considered as essential during all stages of life after birth from cradle to grave.



The omega-3 oils are important in alleviating inflammatory-based diseases and are known to ameliorate diabetes, depression, schizophrenia and other mental issues. In this relation, eicosapentaenoic acid (EPA) is used as a prescription drug in Japan for heart disease and elsewhere for treatment of Schizophrenia at a dose of about 4.0 g/day. Concentrates of EPA and DHA (85-90%) in the ethyl ester form have also been recommended for reducing the death from coronary heart disease (CHD), again at a dose of 4.0 g/day. Other benefits of omega-3 oils are numerous as they play a positive role in certain types of cancer as well as skin health, among others.

While the role of EPA and DHA has been well documented, less information is available on the role of docosapentaenoic acid (DPA) of the omega-3 family in the existing literature. Thus, further research on this omega-3 PUFA is necessary to shed light on its unique properties and effects. It is with these views that the benefits of omega-3 oils must be considered in their totality and their overall contribution to health promotion and disease risk reduction. Of course, the role of alpha-linolenic acid (ALA) must also be remembered, but with consideration of its conversion to EPA which might just be sufficient for alleviating certain disorder.

At this point, it is necessary With respect to point out that long-chain omega-3 PUFA are very sensitive to oxidative processes and as such need to be protected so that off-flavour development in products does not occur. This is a prerequisite for their use in food and as natural health products. Of course, their inclusion in food, as such, should be in products that are used within a short period of time or be in a well-protected form such as microencapsulated and nanoencapsulated ingredients. In addition, we have already reported on the stabilization of the omega-3 oils with antioxidants in physical forms or their esterification with phenolic antioxidants.

For further information about the omega-3 oils, their delivery and applications, please consult the December 2015 issue of the *Journal of Functional Foods*.

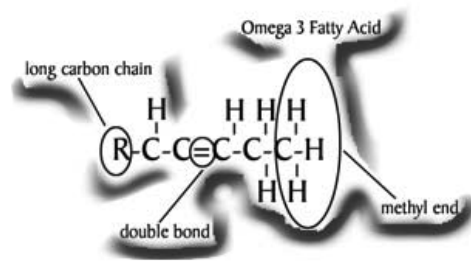


## Omega 3 fatty acids - Dietary intakes and conversion

Kelley Fitzpatrick

NutriScience Solutions, [kellelyf@shaw.ca](mailto:kellelyf@shaw.ca)

The market for omega 3 (n-3) fatty acids continues to grow, due in large part to solid scientific findings and increasing consumer interest. Two of the most popular sources for n-3s are flaxseed and fish oil, either from whole foods or supplements. Flaxseed contains over 50% of its fatty acids as n-3 alpha-linolenic acid (ALA) and is also a good source of health-promoting lignans, antioxidants and fiber. Fish oils are sources of the long-chain n-3s -- eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).



Modern diets are extremely lacking in n-3 fatty acids. In fact, more than one-third of U.S. adults are likely not consuming the recommended amount of ALA and EPA+DHA (Papanikolaou *et al.*, 2014. [www.ncbi.nlm.nih.gov/pubmed/24694001](http://www.ncbi.nlm.nih.gov/pubmed/24694001)). Canadian consumption is also low. Health Canada has recently reported that the mean n-3 index level of Canadians aged 20 to 79 was 4.5% (Langlois and Ratnayake, 2015. [www.ncbi.nlm.nih.gov/pubmed/26583692](http://www.ncbi.nlm.nih.gov/pubmed/26583692)). Levels were higher

for women, older adults, Asians and other non-white Canadians, omega-3 supplement users, and fish consumers; levels were lower for smokers and people who were obese. Fewer than 3% of adults had levels associated with low coronary heart disease and 43% had levels associated with high risk. Not only do diets contain insufficient n-3, there is an abundance of n-6 linoleic acid (LA) in the food supply, primarily from soybean oil, especially in the U.S. (Blasbalg *et al.*, 2011. [www.ncbi.nlm.nih.gov/pubmed/21367944](http://www.ncbi.nlm.nih.gov/pubmed/21367944)).

ALA can be converted to longer chain EPA and DHA in the body and competes with LA for the same conversion enzymes. A diet rich in LA may reduce the conversion of ALA to EPA by as much as 40% (Emken *et al.*, 1994. [www.ncbi.nlm.nih.gov/pubmed/7914092](http://www.ncbi.nlm.nih.gov/pubmed/7914092)). Lower LA intake acts to increase EPA conversion from ALA and reduce n-6-derived arachidonic acid synthesis (Liou *et al.*, 2007. [www.ncbi.nlm.nih.gov/pubmed/17374659](http://www.ncbi.nlm.nih.gov/pubmed/17374659)).

A recent study highlighted the impact that dietary LA may have on EPA and DHA status (Wood *et al.*, 2014. [www.ncbi.nlm.nih.gov/pubmed/24456663](http://www.ncbi.nlm.nih.gov/pubmed/24456663)). Reducing LA intakes from 4.6% energy to 2% energy, while maintaining long chain n-3 intakes, resulted in a significant increase in the EPA and DHA content of plasma phospholipids. The low LA diet (4.2 g/day vs. control of 8.5 g/day) was fed for four weeks. ALA intake was lower on the LA diet compared to the control (1.23 g to 0.57 g per day). Lower LA intakes without increases in ALA appear to enhance ALA conversion to longer chain n-3 fatty acids.

In addition, ALA appears to provide its own health benefits, unrelated to its conversion to EPA and DHA (as reviewed in Fleming and Kris-Etherton. 2014. [www.ncbi.nlm.nih.gov/pubmed/25398754](http://www.ncbi.nlm.nih.gov/pubmed/25398754)). ALA from flaxseed provides health benefits as well as some unique advantages over n-3 fatty acids from fish. Declining fish stocks, high cost, allergenic concerns and taste preferences associated with fish are of less of an issue with n-3 rich plant sources such as flaxseed.





International Society  
for Nutraceuticals & Functional Foods

## MEMBERSHIP APPLICATION 2016

<b>Last Name:</b> _____		<b>First Name:</b> _____	
Membership #: ISNFF-			
Company / Institution / University:			
Address:			
Telephone: (    )		Fax: (    )	
E-Mail address:			
<b>New Membership</b>		<input type="checkbox"/>	
<b>Renewal</b>		<input type="checkbox"/>	
<b>Cancel Membership</b>		<input type="checkbox"/>	
<b>Member</b>	\$95	<input type="checkbox"/>	
<b>Student Member</b>	\$45	<input type="checkbox"/>	
<b>Corporate Member</b>	\$2,000	<input type="checkbox"/>	
<b>Corporate Member (Renewal)</b>	\$500	<input type="checkbox"/>	
<b>Foreign Affiliate Member Societies</b>	\$2,000	<input type="checkbox"/>	
<b>Payment Method:</b>			
Money Order:		<input type="checkbox"/>	
Credit Card:	VISA <input type="checkbox"/>	MASTERCARD <input type="checkbox"/>	
Credit Card #:	_____		
Card Holder:	_____		
Expiry Date:	_____		
Please complete form and return to:			
ISNFF, P.O. Box 29095, 12 Gleneyre Street, St. John's, NL, A1A 5B5 Canada			
Or scan and forward to Email: <a href="mailto:ISNFFsecretary@gmail.com">ISNFFsecretary@gmail.com</a>			

## UPCOMING NUTRACEUTICALS AND FUNCTIONAL FOODS EVENTS

### January 2016

29-30. Nutra India Summit; Mumbai, India

### February 2016

2-4. 2016 Probiota; Amsterdam, The Netherlands

2-4. GOED Exchange 2016: Shaping the Future of the Industry; Tenerife, Canary Islands

29-1. Probiotics Congress: Asia; Kuala Lumpur, Malaysia



### March 2016

9-13. Natural Products Expo West; Anaheim, CA, USA

17-18. NUCE International. Health World Expo; Bologna, Italy



### May 2016

10-12. Vitafoods Europe. Annual Business Exhibition for the Nutraceutical, Dietary Supplements and Functional Food and Drinks Industries; Geneva, Switzerland



### June 2016

15-16. Vitafoods South America; São Paulo, Brazil

21-23. Healthplex & Nutraceutical China 2016; Shanghai, China

26-27. NutriFood 2016: International Conference on Advances in Human Nutrition, Food Science & Technology 2016; Toronto, ON, Canada



### July 2016

11-13. 2<sup>nd</sup> World Nutraceutical Conference and Expo; Kuala Lumpur, Malaysia

16-19. Institute of Food Technologists Annual Meeting & Food Expo, Chicago, IL

18-20. Nutraceuticals 2016; Bangkok, Thailand



### October 2016

8-9. ISNFF Short Course; Orlando, FL, USA

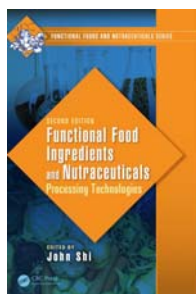
8-13. ISNFF's 9<sup>th</sup> International Conference & Exhibition on Nutraceuticals and Functional Foods; Orlando, FL, USA

15-18. Food & Nutrition Conference & Expo (FNCE 2016); Boston, MA, USA

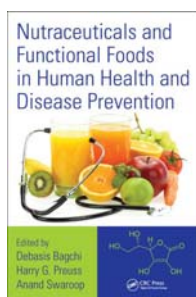




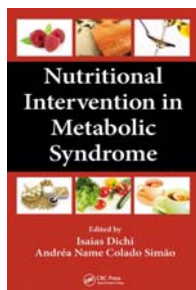
## NEW TITLES FOR 2015



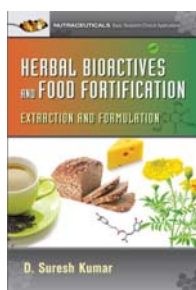
**Functional Food Ingredients and Nutraceuticals: Processing Technologies, Second Edition**, Editor: John Shi, CRC Press: Taylor & Francis Group, 2015, pp 659.



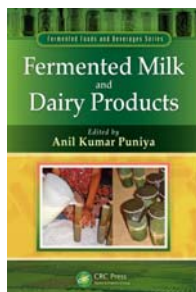
**Nutraceuticals and Functional Foods in Human Health and Disease Prevention**, Editors: Debasis Bagchi, Harry G. Preuss & Anand Swaroop, CRC Press: Taylor & Francis Group, 2015, pp 700.



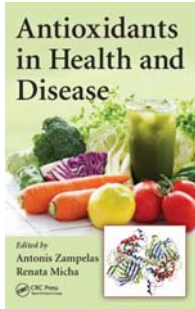
**Nutritional Intervention in Metabolic Syndrome**, Editors: Isaias Dichi & Andréa Name Colado Simão, CRC Press: Taylor & Francis Group, 2015, pp 454.



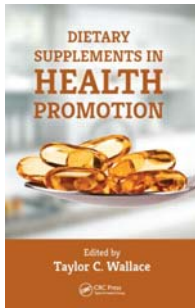
**Herbal Bioactives and Food Fortification: Extraction and Formulation**, D. Suresh Kumar, CRC Press: Taylor & Francis Group, 2015, pp 252.



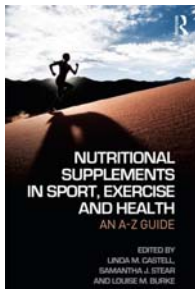
**Fermented Milk and Dairy Products**, Editor: Anil Kumar Puniya, CRC Press: Taylor & Francis Group, 2015, pp 744.



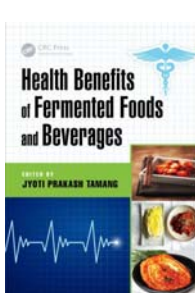
**Antioxidants in Health and Disease**, Editors: Antonis Zampelas & Renata Micha, CRC Press: Taylor & Francis Group, 2015, pp 340.



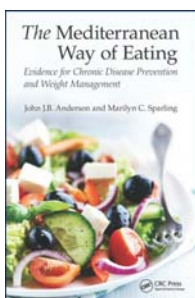
**Dietary Supplements in Health Promotion**, Editor: Taylor C. Wallace, CRC Press: Taylor & Francis Group, 2015, pp 405.



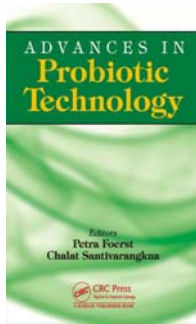
**Nutritional Supplements in Sport, Exercise and Health: An A-Z Guide**, Editors: Linda M. Castell, Samantha J. Stear & Louise M. Burke, CRC Press: Taylor & Francis Group, 2015, pp 426.



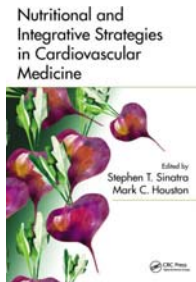
**Health Benefits of Fermented Foods and Beverages**, Editor: Jyoti Prakash Tamang, CRC Press: Taylor & Francis Group, 2015, pp 638.



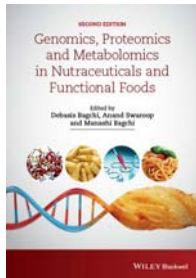
**The Mediterranean Way of Eating. Evidence for Chronic Disease Prevention and Weight Management**, John J.B. Anderson & Marilyn C. Sparling, CRC Press: Taylor & Francis Group, 2015, pp 279.



**Advances in Probiotic Technology**, Editors: Petra Foerst & Chalal Santivarangkna, CRC Press: Taylor & Francis Group, 2015, pp 384.



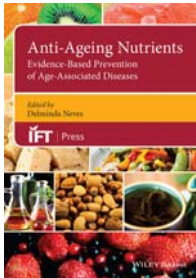
**Nutritional and Integrative Strategies in Cardiovascular Medicine**, Editors: Stephen T. Sinatra & Mark C. Houston, CRC Press: Taylor & Francis Group, 2015, pp 436.



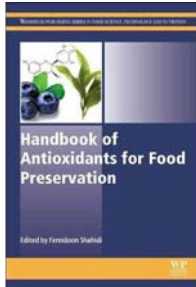
**Genomics, Proteomics and Metabolomics in Nutraceuticals and Functional Foods, 2nd Edition**, Editors: Debasis Bagchi, Anand Swaroop & Manashi Bagchi, Wiley-Blackwell, 2015, pp 688.



**Nanotechnology and Functional Foods: Effective Delivery of Bioactive Ingredients**, Editors: Cristina Sabliov, Hongda Chen & Rickey Yada, Wiley-Blackwell, 2015, pp 408.



**Anti-Ageing Nutrients: Evidence-Based Prevention of Age-Associated Diseases**, Editor: Deliminda Neves, Wiley-Blackwell: IFT Press, 2015, pp 424.



**Handbook of Antioxidants for Food Preservation**, Editor: Fereidoon Shahidi, Woodhead Publishing, 2015, pp 487.