


International Society for Nutraceuticals and Functional Foods

ISNFF Newsletter **Volume 5, Issue 1**

March 2012

The 2011 annual meeting of the International Society for Nutraceuticals and Functional Foods (2011 ISNFF) was held November 14-17, 2011, in Sapporo, Hokkaido, Japan. The four-day event featured an abundance of scheduled activities, including 12 keynote lectures, more than 140 technical presentations, over 120 poster presentations, an Expo showcasing, luncheon seminars, welcome and farewell parties, banquet, Sapporo city tour, and flower arrangement class. Some 450 registrants from 25 countries attended the meeting.

The co-chairs of 2011 ISNFF conference and exhibition, Dr. Shahidi and Dr. Miyashita, opened the meeting in the afternoon of November 14, in Empress Hall of Royton Sapporo Hotel. The keynote lectures by leading scientists highlighted this growing research area, functional foods and nutraceuticals, from different viewpoints and indicating the future directions and possibilities in this area. Thirty oral sessions covered all areas of nutraceuticals and functional foods research and development including nutraceutical resources, novel nutraceutical compounds, disease prevention by nutraceuticals and functional foods, molecular scope of disease prevention, nutri-omics and nutria-genomics, functional foods formulation and global marketing of functional foods, among others. Exhibitors were enthusiastic about the high number of contacts they made which may signal economic recovery. Exhibitors and visitors were in a very positive mood.

The term functional food along with its concept was first proposed in Japan. Now, functional foods are clearly linked to changes in the modern Japanese society, with consumers becoming more concerned about the health aspects of their foods. There is an increasing demand by Japanese consumers for improving quality of life which is fueling the nutraceutical revolution. Sapporo is abundant with the best fresh foods, all of which come from within the prefecture of Hokkaido, an area that has a 200% food self-sufficiency ratio. There are several Universities and Institutes in the Sapporo area where we can find a top level of research in food chemistry, nutritional chemistry, and molecular biology. Much interest was paid to 2011 ISNFF meeting from the Japanese society.

Sapporo was elected as the most livable city in Japan in

2010. Although Sapporo is the fifth largest city in Japan, an annual survey indicated that Sapporo's greenery and abundance of nature was a great source of pride for local residents. Woodlands occupy approximately sixty four percent of the total area of the city. In addition, Sapporo overflows with greenery with a total of approximately 2,700 park areas within the city. There are a variety of wild animals living in the city, such as brown bears, Ezo deer, great spotted woodpeckers and red fox. We live close by such animals and share the natural environment with them. Attendees enjoyed staying in Sapporo during the meeting and found a harmony between the bustle of Sapporo city and the peaceful nature that can be found in the outskirts of Sapporo.

Sapporo is now covered with snow and is quiet. However, during the meeting attendees could see the colorful fall leaves of the trees in the downtown area. In orchards, juicy red apples were ready for picking. On the last day of the meeting, attendees experienced the first snowfall of the winter. After the meeting, another optional event, study tour was organized for mainly the foreign guests. More than 30 guests joined the tour and first visited Laboratories of the Faculty of Agriculture of Hokkaido University. Professor Yokota introduced his lab, which is known as one of the most famous food microorganism labs. He talked about the health beneficial effect of intestinal bacteria. Lunch was at Shiroi Koibito Park, a kind of amusement park especially for those who like sweets and chocolates. After lunch, the party visited Food Processing Research Center (Institute of Hokkaido Government for Food Technology), a center of Food Research in Hokkaido area, and Amino-Up Chemical Company Co., Ltd., manufacturing company of functional food ingredients before returning to hotels. This was a day well spent with lots of scientific activities and fun.

The conference, exhibition and associated activities were a total success and we were pleased to have had the opportunity to host it. The awards presented to firms and individuals were as follows:

Industry Merit Award

Clinical Trial Center for Functional Foods,
Chonbuk National University, Korea

Science and Service Merit Award

Professor Kazuo Miyashita, Hokkaido University

Fereidoon Shahidi Fellowship Award

M.K. Widjaja-Adhi Airanthi, Japan – see photo at right

Best Poster Presentation Awards

Hitoshi Iwaya (First Place), Japan
Kazushi Tanemura (Second Place), Japan
Tomomi Kobayashi (Third Place), Japan

The 5th International Conference and Exhibition of the ISNFF will be held December 1-6, 2012 at the Courtyard King Kamehmeha's Kona Beach Hotel, Kailua-Kona, Hawaii. We look forward to participation of all those interested in the latest developments in the field of nutraceuticals and functional foods. For further information about the 2012 meeting, please visit the ISNFF website at <isnff.org>.

Applications and/or nominations for the Fereidoon Shahidi Fellowship Award should be made to Professor Chi-Tang Ho at ho@AESOP.Rutgers.edu and copied to the Society's secretary, Ms. Peggy-Ann Parsons at ISNFFsecretary@gmail.com.

Professor Kazuo Miyashita, Co-Conference Chair

Nutritional Prevention against Sarcopenia: An Advancing Age-Induced Disability

Dr. Debasis Bagchi, Ph.D., MACN, CNS, MAIChE, University of Houston, College of Pharmacy, Houston, TX 77204, USA

Sarcopenia affects many elderly people *via* generally accepted loss of lean muscle and muscle strength attributed to advancing age. The dangers of sarcopenia lie in the lack of widespread understanding amongst the general public that it can and should be avoided, even in the elderly and females. Healthy people of all ages can definitely participate in proper dietary and exercise programs that ameliorate this severe condition. The advancing age-related changes in muscles that lead to serious metabolic and functional consequences are treatable and often preventable by resistance training and proper dietary programs. Avoidance or even lessening of sarcopenia can lead to functional independence for older people, to reduced need for assistance living, and to increased quality of life for everyone.

Currently, the most astute of the physicians and health care providers have recognized that the major objective of weight loss program is to lose fat not lean body mass. In addition to the loss of muscle mass that commonly occurs with a calorie-restricting dietary regimen, many elderly individuals have also lost too much muscle with aging. The technical name for too little muscle mass is “sarcopenia”.

The loss of muscle mass and strength that is often found in the elderly, can lead to serious functional and metabolic consequences if left untreated. The term “sarcopenia” is derived from the Greek word: *sarx*: meaning flesh and *penia*: meaning loss. As we age, many important general changes occur throughout the body that include loss of lean muscle mass, gain of fat mass, and a wide array of biochemical modifications. The changes in body composition and metabolism associated with aging, including the loss of muscle mass, can cause serious functional and metabolic outcomes that ultimately influence negatively the quality of life. This, in turn, increases the likelihood in some elderly people for needing assisted living.

What can individuals do about sarcopenia? Fortunately, basic, effective, natural, nutraceutical treatments exist for sarcopenia, such as muscle resistance training and modified diets with increased protein content. Furthermore, hormonal interventions and nutritional supplements may also help in the prevention and treatment of sarcopenia. We would like to discuss on the advancing age-related changes in muscle, and the nutritional and therapeutic interventions to treat patients with sarcopenia.

Even though it is probable that sarcopenia is a multifactorial condition, it can be treated by several different methods, already mentioned as being hormonal interventions, nutritional supplements, increased protein in the diet, and resistance training exercises – a very effective intervention.

The most accepted hormonal treatment of sarcopenia is the use of growth hormones (GH), based on the fact that reduced levels of growth hormones are found in patients with sarcopenia. In a study where patients with sarcopenia were treated with GH supplements, a significant increase in plasma IGF-1 levels and small increases in lean body mass were reported. However, serious side effects followed; these were increased levels of plasma glucose and systolic blood pressure. Other side effects that subsequently occurred included carpal tunnel

syndrome, gyneocomastia and hyperglycemia. This study, as well as other corroborating studies, suggests that although GH therapy significantly increases lean muscle mass, the frequent occurrences of serious side effects, as well as the high monetary burden, may outweigh the clinical benefits.

A potential option to replace GH therapy is the use of GHRH supplements. Growth hormone-releasing hormone intervention appears to maintain the benefits of GH with fewer side effects that GH therapy.

Testosterone and estrogen supplements offer additional hormonal intervention in elderly people with sarcopenia. DHEA, an adrenal androgen, is the biological precursor of active androgenic hormones, such as testosterone and dihydrotestosterone. DHEA has been used as replacement therapy to increase to increase anabolic hormones that increase levels of lean muscle mass in elderly people with sarcopenia. Recall older people with sarcopenia experience decreased levels of anabolic hormones and increased levels catabolic hormones. Nutritional supplements without an exercise regimen appear to provide less consistent significant gains in muscle mass or strength than when consumed in an exercise program. Therefore, the majority of people with sarcopenia will benefit most when a diet and exercise programs are carried concomitantly. Furthermore, chromium(III) supplements have demonstrated benefits in sarcopenia. Studies have shown that people over age 55 should increase their protein intake to offset the effects of sarcopenia.

Resistance exercise increases myofibrillar and mitochondrial protein synthesis rates which increases lean muscle mass and strength. Improvements in muscle strengths are due to the increased synthesis of myosin heavy chains and other specific muscle proteins that reverse the effects of sarcopenia. Although aerobic exercises do not sufficiently increase lean muscle mass or muscle strength, they offer important additional benefits on increased endurance, reduced body fat, increased insulin sensitivity, increased cardiovascular health, and many other advantageous effects on overall body health. Resistance training increases the functional capacity of aerobic performance, elderly people should engage in both aerobic and resistance training to improve their overall health.

With cutting-edge discoveries every day, progress is being made towards a future where both the young and old will have an improved quality of life based on improved knowledge of fitness, nutrition, replacement and supplemental therapy. Recent advances in clinical research may significantly ameliorate the deadly effects of sarcopenia, the curse of the 21st century.

References

A.D. de los Reyes, A.D., Bagchi, D. and Preuss, H.G. 2003. Overview of resistance training, diet, hormone replacement and nutritional supplements on age-related sarcopenia – A minireview. *Research Communications in Molecular Pathology and Pharmacology* **113/114:** 159-170.

Liew, A., Bagchi, D. and Preuss, H.G. 2003. Sarcopenia: A common, often preventable, disorder of aging. *The Original Internist* 29-33.

Li, Z. and Heber, D. 2012. Sarcopenic obesity in the elderly and strategies for weight management. *Nutrition Reviews* **70**: 57-64.

Visser, M. and Schaap, L.A. 2011. Consequences of sarcopenia. *Clinical and Geriatric Medicine* **27**: 387-399.

Food Phenolics: Status Changes from Antinutrients to Health Promoting Ingredients
Fereidoon Shahidi, University Research Professor, Department of Biochemistry, Memorial University of Newfoundland, St. John's, NL, Canada A1B 3X9

Phenolics in foods were traditionally associated with growth inhibition as their presence in certain plant products such as oilseed meals in the form of condensed tannins caused adverse effects in terms of protein availability. However, benefits of phenolics in plants and their fruits and flowers have long been recognized. While in plants, they are produced more rapidly in autotrophs in response to stressors such as draught or attack by predators and for filtering of UV light, they have also been important for pollination of flowers, among others. Their presence in the hulls of seeds not only protects the seeds from attack by different microorganisms and spoilage, they also prevent untimely germination.

The importance of phenolics in foods as colorants and flavor active compounds has also been appreciated. The anthocyanins are responsible for the color of foods and many of the phenolics are associated with astringency and bitterness in foods. However, their role in health promotion and disease risk reduction and as potent antioxidants was appreciated more recently. Although the mechanism of action of phenolics goes far beyond their role as antioxidants, their antioxidant activity is of paramount importance in neutralizing free radicals and hence oxidative stress in the body. Many of the diseases encountered are due to the involvement of free radicals as initiators or as products formed due to occurrence of ailments such as cardiovascular disease, certain types of cancer, type-2 diabetes and metabolic syndrome, among others. Furthermore, the efficacy of phenolic antioxidants in stabilizing foods against deteriorative processes is of commercial interest. However, the efficacy of phenolics in this respect is system dependent as discussed by the polar paradox theory and its limitations. Measurement of antioxidant activity of food phenolics and other classes of bioactives has appeared in the recent literature. In foods, different classes of phenolics are present and these include flavonoids, phenolic acids, stilbenes, hydrolysable tannins and proanthocyanidins or condensed tannins as well as lignans, among others. The major contribution to our daily intake of phenolics is made by caffeinated beverages such as tea, coffee and cocoa. These together with a contribution from those present in cereals, legumes, fruits and vegetables may reach 1g on a daily basis, but often consumption of over-processed foods such as white bread and dehulled cereals may limit this to 200 mg or less in North America and other Western countries.

When dealing with phenolics, analytical procedures used often ignore the presence and quantitation of insoluble-bound phenolics, hence underestimation of the results. These phenolics are bound to arabinoxylan, cellulose and other carbohydrates in the seed walls and, unless released, cannot be determined. This portion of phenolics in cereal grains and alike accounts for most of the contents. However, when consumed, they are dissociated in the gastrointestinal tract or released in the colon, hence exerting their beneficial effects such as prevention of colon cancer. This factor may partially account for lack of correlation between *in-vitro* and *in-vivo* results. However, bioaccessibility and bioavailability of phenolics is also very important when assessing their beneficial effects and correlation of *in-vitro* and *in-vivo* data.

Metabolism of phenolics is another area of interest as certain metabolites may be more effective than the starting materials.

Recently, there has been a growing interest in the use of combination of bioactives, including antioxidants for health and wellness in both additive and often a synergistic manner. In this connection, we have made use of physical combinations of bioactives such as omega-3 oils with green tea or coenzyme Q10 as well as phytosterols, among others. These combinations while useful, need to carefully considered for unwarranted interaction among the components present. As an example, chlorophylls in crude green tea extracts may cause photooxidation of omega-3 fatty acids. In addition, combination of bioactives such as omega-3 fatty acids with green tea catechins or phytosterols as well as phytosterols with different phenolics via covalent linkages has proven quite useful in rendering unexpected results. As an example, omega-3 esters of epigallocatechin gallate (EGCG) such as EGCG esters of docosahexaenoic acid (DHA) were able to completely arrest colon tumorigensis in mice and also to inhibit hepatitis C virus (HCV) by a factor of 1700 compared to the standard embelin. Thus, there are remarkable opportunities in this long road of research to a healthful destiny and our wellness. An added advantage of it is health care cost reduction.

References

Chandrasekara, A. and Shahidi, F. 2011. Antiproliferative potential and DNA scission inhibitory activity of phenolics from whole millet grains. *J. Functional Foods* 3: 159-170.

Chandrasekara, A. and Shahidi, F. 2011. Inhibitory activities of soluble and bound millet seed phenolics on free radicals and reactive oxygen species. *J. Agric. Food Chem.* 59: 428-436.

Howitz, K.T. and Sinclair, D.A. 2008. Xenochormesis: Sensing the chemical cues of other species. *Cell* 133: 387-391.

Shahidi, F. and Naczk, M. 2004. *Phenolics in Food and Nutraceuticals*. CRC Press, Boca Raton, FL.

Shahidi, F. and Ho, C-T. (Editors). 2007. *Antioxidant Measurement and Applications*. ACS Symposium Series 956, American Chemical Society, Washington, DC.

Shahidi, F. and Zhong. Y. 2010. Lipid oxidation and improving the oxidative stability. *Chem. Soc. Rev.* 39: 4067-4079.

Shahidi, F. and Zhong, Y. 2011. Revisiting the polar paradox theory: A critical overview. *J. Agric. Food Chem*. 59: 3499-3504.

Zhong, Y., Chiou, Y-S., Pan, M-H., Ho, C-T. and Shahidi, F. 2012. Protective effects of epigallocatechin gallate (EGCG) derivatives on azoxymethane-induced colonic tumorigenesis in mice. *J. Functional Foods* 4: 323-330.

ISNFF Short Course Series
6th International Practical Short Course on

Functional Foods, Nutraceuticals and Bioactives: Fundamentals, Applications, and Health Effects

Hinitsa Bay Hotel
Peloponnese, Greece
May 28 - 29, 2012

Registration is Now Open!

Program

Day 1 – Monday Morning, May 28, 2012

8:00 Registration

8:50 Opening Remarks: Nutraceuticals, Functional Foods & Dietary Supplements, Dr. Fereidoon Shahidi, Memorial University, Canada

9:00 Application of Omic Technologies in Nutraceuticals and Functional Foods, Dr. Debasis Bagchi, Iovate, Canada

9:30 Herbal Products and Medicinal Supplement, Dr. Mingfu Wang, University of Hong Kong, Hong Kong, PRC

10:00-10:30 Nutrition Break & Free Discussion

10:30 Omega-3 Oils and Their Derivatives in Cardiovascular and Cancer Chemoprevention, Dr. Fereidoon Shahidi, Memorial University, Canada

11:00 The Mediterranean Diet: Olive Oil and Beyond, Dr. Apostolos (Paul) Kiristakis, Alexander Technological Education Institute, Greece

11:30 Collagen and Glucosamine in Joint Health, Dr. Debasis Bagchi, Iovate, Canada

12:00 Flavor Challenges in Functional Food Formulations, Dr. Martin Steinhaus, Germany

12:30-1:30 Lunch Break and Free Discussion

1:30 Citrus Fruits and their By-Products in Health and Disease, Dr. Chi-Tang Ho, Rutgers University, USA

2:00 Small Fruits and their Anthocyanin Components in Human Health, Dr. Manashi Bagchi, NutriToday, USA

2:30 Health Benefits of Probiotic Functional Foods, Dr. Ronald B. Pegg, University of Georgia, USA

3:00 Regulations of Functional Foods: Global Perspectives, Dr. Debasis Bagchi, Iovate, Canada

3:30 Bioavailability and Bioaccessibility of Phytochemicals, Dr. Chi-Tang Ho, Rutgers University, USA

4:00 Carotenoids and Xanthophylls as Functional Food Components and Nutraceuticals, Dr. Kazuo Miyashita, Hokkakido University, Japan

4:30 Value-Added Nutraceuticals and Oils From Agri-Food Processing By-Products, Dr. Klicia Sampaio and Roland Verhé, Ghent University, Belgium

Day 2 – Tuesday Morning, May 29, 2012

8:30 Plant Extracts Protect against Aging and Alzheimer Disease, Dr. Lucy Sun Hwang, Taiwan

9:00 Quality Control of Nutraceuticals and Functional Food Ingredients, Dr. Mingfu Wang, University of Hong Kong, Hong Kong, PRC

9:30 Preventing the Oxidation of Nutraceutical Fish Oils, Dr. Kazuo Miyashita, Hokaido University, Japan

10:00-10:30 Nutrition Break & Free Discussion

10:30 Can Phytosterol-fortified Functional Foods Reduce the Risk of Cardiovascular Disease? Dr. Ronald B. Pegg, University of Georgia, USA

11:00 Food Phenolics and Other Natural Antioxidants in Health and Disease, Dr. Fereidoon Shahidi, Memorial University, Canada

11:30 Nutraceutical Beverages and Their Potential Impact on Health and Wellness, Dr. Ronald B. Pegg, University of Georgia, USA

12:00 Closing Remarks, Dr. Fereidoon Shahidi

We reserve the right to change speakers or make other necessary alterations, as required.

International Society for Nutraceuticals & Functional Foods

A Disciplinary Interest Group of IUFoST

ISNFF International Short Course Registration

Sixth International Practical Short Course on Functional Foods, Nutraceuticals and Bioactives: Fundamentals, Applications and Health Effects

Pre-conference to:

The 13th International Flavor Conference & 5th George Charalambus Memorial Symposium

<www.emich.edu/csie/flavor>

The short course is organized by International Society for Nutraceuticals and Functional Foods (ISNFF) in Hinitsa Bay Hotel, Pelponnese, Greece,

May 28 and 29, 2012

<www.isnff.org>

First Name: Middle Name:

Family Name: Title:

Affiliation:

Address:

Email: Tel: Fax:

Categories	Before April 20, 2012	After April 20, 2012
☐ Participant	US $645	US $795
☐ Academic	US $445	US $495
☐ Student	US $295	US $345

Registration for both the pre-course and the 13th International Flavor Conference will receive a US$50 discount. ISNFF members are entitled to an additional US$50 discount.

Total amount: US $

Payment:

Credit Card: ☐ VISA Credit Card #:

☐ MASTERCARD Card Holder:

Expiry Date:

(Please complete form and return to Peggy-Ann Parsons at isnffsecretary@gmail.com or Fax: (709) 864-4000).

International Society for Nutraceuticals & Functional Foods

2012 Annual Conference & Exhibition

Functional Foods, Nutraceuticals, Natural Health Products and Dietary Supplements

December 1-6, 2012

Courtyard by Marriott King Kamehameha's Kona Beach Hotel, Kailua-Kona, Hawaii, USA

International Advisory Board

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Dr. Kazuo Miyashita (Japan)
Dr. Hiroyoshi Moriyama (Japan)
Dr. Ronald B. Pegg (USA)
Dr. Augustin Scalbert (France)
Dr. Fereidoon Shahidi (Canada)
Dr. Young-Joon Surh (Korea)
Dr. Lucy Sun Hwang (Taiwan)
Dr. Junji Terao (Japan)
Dr. Chin-Kun Wang (Taiwan)
Dr. Roland Verhe (Belgium)
Dr. Rickey Yada (Canada)
Dr. Liangli Yu (USA)

Conference Co-Organizers and Event Co-ordinators

Dr. Fereidoon Shahidi (Canada)
Dr. Chi-Tang Ho (USA)
Dr. Colin Barrow (Australia)
Dr. Chin-Kun Wang (Taiwan)

Conference Symposia

- Processing of functional food ingredients and nutraceuticals
- Quality assurance and acceptability of functional food ingredients, nutraceuticals and dietary supplements
- Macademia and other tree nuts and health
- Coffee, cocoa and Tea
- Tropical fruits and nutraceuticals
- Fermented foods
- Palm-based nutraceuticals and health
- Nutraceuticals and functional foods in health and disease (heart health, cancer, diabetes, metabolic syndrome, gut health, etc)
- Nutraceuticals for obesity and weight control
- Omega-3 and other nutritional oils
- Aquaculture and seafood nutraceuticals
- Nutraceutical and functional beverages
- Pre-, pro- and synbiotics
- Proteins and biopeptides – **Dr. Nakai Memorial Symposium**
- Nutraceutical polysaccharides
- Phenols and polyphenols
- Astaxantin and other carotenoids/xanthophylls
- Delivery systems(also Nanotech)for functional food ingredients
- Nutraceuticals and obesity
- Absorption, metabolism and action mechanism of nutraceuticals and functional food ingredients
- Nutrigenomics, proteomics and metabolomics
- Algae-based nutraceuticals
- Global regulations, marketing and the buisiness of nutraceuticals, dietary supplements and functional foods
- Algal-based functional food ingredients and bioproducts
- Antioxidants in action
- Dietary supplements
- Voluntary papers (oral and poster)

Pre-conference on Nutraceutical and Functional Omega-3's and Antioxidants in Action, **December 1 & 2, 2012**

For further information, visit: ***isnff.org***

Disclaimer : Program details and speakers may change due to circumstances

ISNFF Title and Abstract Submission

CALL FOR PRESENTATION PAPERS 2012
Functional Foods, Nutraceuticals, Natural Health Products
and Dietary Supplements
December 1-6, 2012
Courtyard King Kamehmeha's Kona Beach Hotel
Kailua-Kona, Hawaii, USA

I would like to attend and present:	☐ Oral ☐ Poster ☐ Oral or Poster
Title:	
Abstract (150 words or less):	
Authors: (underline the presenting author):	
Address:	
Telephone:	
Fax:	
E-mail:	

Deadlines: Title and abstract submissions, respectively, August 3 and September 28, 2012
(Complete form and return to Ms. Peggy-Ann Parsons, Fax: 1-709-864-4000 or
E-mail: ISNFFsecretary@gmail.com)

International Society for Nutraceuticals & Functional Foods

2012 ISNFF Conference Registration
December 1-5, 2012
Courtyard King Kamehmeha's Kona Beach Hotel
Kailua-Kona, Hawaii, USA

First Name: Middle Name:

Family Name: Title:

Affiliation:

Address:

Email: Tel: Fax:

Categories		Till August 31, 2012	After August 31, 2012
Conference registration	☐ Member	US $435	US $505
	☐ Non-member	US $505	US $585
	☐ Student member	US $205	US $255
	☐ Student non-member	US $255	US $303
	☐ Exhibitor (Full Booth)	US $2,995 (includes 2 registrations) Double US $4,995	US $4,000 Double US $6,000
	☐ Exhibitor (Table Top)	US $1,500 (includes 1 registration)	US $1,750
☐ Conference registration, membership		US $530	US $600
☐ Conference registration, membership, and Journal		US $630	US $730
☐ Gala Dinner & Luau		US $95	US $110

Total amount: US $

Payment:

Certified Cheque: ☐ Payable to ISNFF

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☐ MASTERCARD Card Holder:

Expiry Date:

(Please fill in the form and fax to conference secretary, Peggy-Ann Parsons at (709) 864-4000 or scan and email to ISNFFsecretary@gmail.com).

UPCOMING NUTRACEUTICALS AND FUNCTIONAL FOODS EVENTS

March 2012

28-29. Wellness 12; Rosemont, IL, USA

May 2012

7-9. 5th International Dietary Fibre Conference 2012; Rome, Italy

22-24. Vitafoods Europe 2012 – The Global Nutraceutical Event; Geneva, Switzerland

28-29. 6th International Practical Short Course on Functional Foods, Nutraceuticals and Bioactives: Fundamentals, Applications and Health Effects; Port Heli, Greece

June 2012

25-28. IFT 11 Annual Meeting+Food Expo, Las Vegas, NV, USA

12-14. International Scientific Conference on Probiotics and Prebiotics; Kosice, Slovakia

26-28. Natural & Nutraceutical Products China 2012; Shanghai, China

23-24. PROBIOTECH 2012; Paris, France

July 2012

9-11. Phytopharm 2012, the XVI International Congress; St. Petersburg, Russia

28-01. 60th International Congress on Natural Products Research (ICNPR). Global Change, Natural Products and Human Health; New York City, NY, USA

August 2012

5-9. 16th IUFoST World Congress of Food Science and Technology; Salvador, Brazil

23-25. Nutracon Asia: Formulating Success; Hong Kong, China

September 2012

5. 5th International Scientific Symposium on Tea & Human Health, Washington, DC

5-7. Vitafoods Asia 2012; Hong Kong, China

25-27. NUCE International; Milan, Italy

October 2012

3-5. Health Ingredients Japan 2011, Tokyo, Japan

11-12. Healthy Ageing 2012. Foods, Medical Nutrition and Supplements; Amsterdam, The Netherlands

November 2012

13-15 Health Ingredients Europe and Natural Ingredients; Frankfurt, Germany

16-19. 4th International Symposium on Human Health Effects of Fruits and Vegetables; Dharwad, India

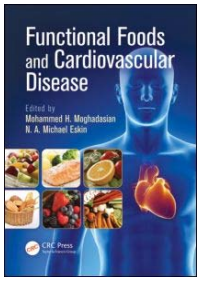
December 2012

1-2. ISNFF Pre-Conference Short Course on Nutraceutical and Functional Omega-3's and Antioxidants in Action; Kona, Hawaii, USA

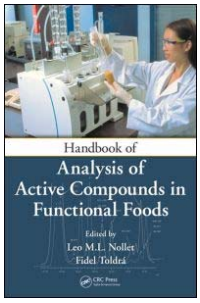
2-6. ISNFF 2012 Annual Conference and Exhibition; Kona, Hawaii, USA

NEW TITLES FOR 2011 and 2012 (only those already published)

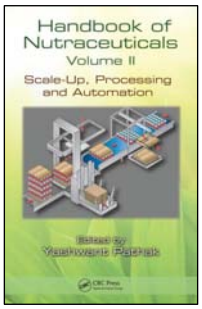
Listed alphabetically below are a number of recently published and upcoming titles dealing with nutraceuticals and functional foods.



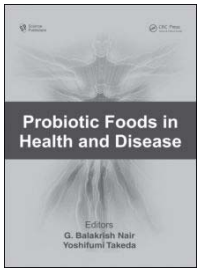
Functional Foods and Cardiovascular Disease, Editors: Mohammed H. Moghadasian, N.A. Michael Eskin, CRC Press/Taylor & Francis Group, 2012, pp 296.



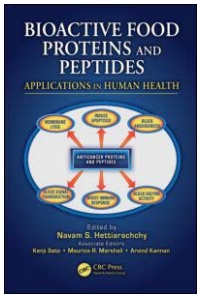
Handbook of Analysis of Active Compounds in Functional Foods, Editors: Leo M.L. Nollet, Fidel Toldra, CRC Press/Taylor & Francis Group, 2012, pp 956.



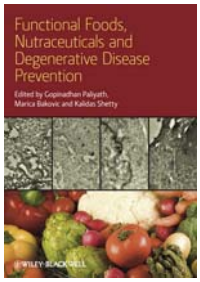
Handbook of Nutraceuticals, Volume II, Scale-Up, Processing and Automation, Editor: Yashwant Pathak, CRC Press/Taylor & Francis Group, 2011, pp 593.



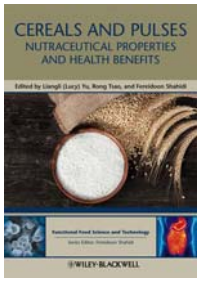
Probiotic Foods in Health and Disease, Editors: G. Balakrish Nair, Yoshifumi Takeda, CRC Press/Taylor & Francis Group, 2011, pp 150.



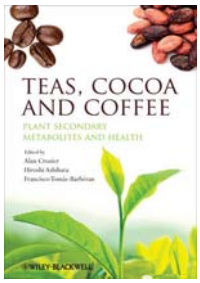
Bioactive Food Proteins and Peptides. Applications in Human Health, Editors: Navam S. Hettiarachchy, Kenji Sato, Maurice R. Marshall, Arvind Kannan, CRC Press/Taylor & Francis Group, 2011, pp 368.



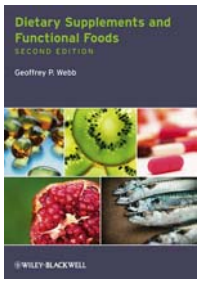
Functional Foods, Nutraceuticals, and Degenerative Disease Prevention, Editors: Gopinadhan Paliyath, Marica Bakovic, Kalidas Shetty, Wiley-Blackwell, 2011, pp 424.



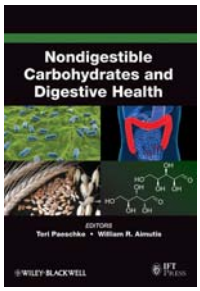
Cereals and Pulses: Nutraceutical Properties and Health Benefits, Editors: Liangli L. Yu, Rong Tsao, Fereidoon Shahidi, Wiley-Blackwell, 2012, pp 328.



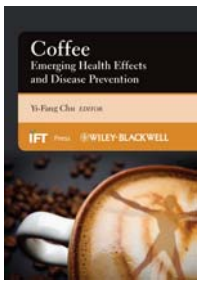
Teas, Cocoa and Coffee: Plant Secondary Metabolites and Health, Editors: Alan Crozier, Hiroshi Ashihara, Francisco Tomás-Barbéran, Wiley-Blackwell, 2011, pp 264.



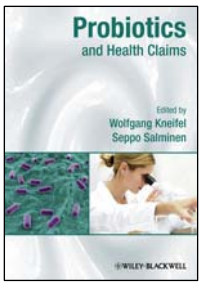
Dietary Supplements and Functional Foods, 2nd Edition, Geoffrey P. Webb, Wiley-Blackwell, 2011, pp 328.



Nondigestible Carbohydrates and Digestive Health, Editors: Teresa M. Paeschke, William R. Aimutis, Wiley-Blackwell, 2010, pp 352.



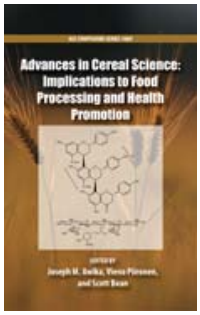
Coffee. Emerging Health Effects and Disease Prevention, Editor: Yi-Fang Chu, IFT Press/Wiley-Blackwell, 2012, pp 352.



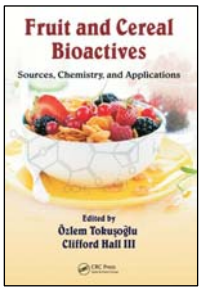
Probiotics and Health Claims, Editors: Wolfgang Kneifel, Seppo Salminen, Wiley/Blackwell, 2011, pp 360.

Functional Foods: Concept to Product, Second Edition, Editor: Maria Saarela, Woodhead Publishing Series In Food Science, Technology and Nutrition No. 205, 2011, pp 672.

Separation, Extraction and Concentration Processes in the Food, Beverage and Nutraceutical Industries, Editor: Syed Rizvi, Woodhead Publishing Series in Food Science, Technology and Nutrition No. 202, 2010, pp 698.



Advances in Cereal Science: Implications to Food Processing and Health Promotion, Editors: Joseph M. Awika, Vieno Piironen, Scott Bean, ACS Symposium Series 1089, American Chemical Society, 2011, pp 212.



Fruit and Cereal Bioactives, Editors: Özlem Tokuşoğlu, Clifford A Hall III, CRC Press/Taylor & Francis, 2011, pp 473.