

 <p><b>Kraisd Tontisirin.</b></p>	<p><b>IUNS award 2013</b></p> <p>Recognition of the work of Professor Kraisd Tontisirin, Thai researcher, in the fight against malnutrition.</p> <p><b>Page 6</b></p>		<p><b>Food insecurity and obesity across the life course</b></p> <p>Today, the Congress will be holding a parallel symposium about food insecurity and obesity, chaired by Rafael Pérez-Escamilla, from Yale School of Public Health.</p> <p><b>Page 5</b></p>	<p><b>Teaching energy balance skills</b></p> <p>Professor James O.Hill upholds better cognitive tools to people, particularly to children, to be active participants in managing their own body weight.</p> <p><b>Page 6</b></p>
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## New approach for integrated nutrition programs

There have only been a handful of success stories in achieving large scale coverage, impact and sustained reductions in undernutrition through integrated nutrition programs. Notable successes in changing key infant feeding practices have been achieved under the LINKAGES Project in Bolivia, Ghana and Madagascar and under the Essential System for Health in Ethiopia (ESHE) Project. **Page 3**



Christian Winger.

# Rapid growth of Type 2 diabetes in Asia

Research group from Zhejiang University found that plasma n-3 polyunsaturated fatty acids were inversely associated with insulin sensitivity and metabolic syndrome in Chinese populations

Type 2 diabetes (T2D) is one of the most common chronic diseases in the world and creates a huge economic burden on society. Compared with other common diseases, diabetes risk alleles showed extreme directional differentiation across different populations, with frequencies showing a consistent decrease from Sub-Saharan African, through European, to East

Asian populations. In the last two decades, Type 2 diabetes has increased dramatically in Asian countries, especially in China and India. "Is the rapid increase in T2D in Asians caused by genetic risks or dietary changes?" is the question that Duo Li, from the Department of Food Science & Nutrition at Zhejiang University in Hangzhou, China is attempting to answer. **Page 2**



Duo Li.

## Health programs based on physical activity

Yesterday, the symposia dedicated to *Active healthy living and prevention of chronic diseases* put the focus on the value of the physical activity in the improvement of the cardiovascular health. Obese individuals who are fit have much lower risk of mortality than lean individuals who are unfit, and low cardiorespiratory fitness in overweight or obese persons is as hazardous as having other risk factors. **Page 2**



## Quick wins in nutrition policies

Yesterday afternoon Dr Joao Breda, the Programme Manager for Nutrition, Physical Activity and Obesity, presented his vision of the situation of the European region of the World Health Organization for combating problems with obesity and overweight, particularly in childhood. **Page 3**



Joao Breda.

## The IUNS Assembly chooses the next two host countries



The second session of the IUNS General Assembly was held on Wednesday afternoon. The Assembly voted that the 22nd Congress will be held in Tokyo, Japan. **Page 4**

## Obesity for the rich and the poor countries?

Should the obesity of the rich and the obesity of the poor be considered as two epidemics? Benjamin Caballero, from the Bloomberg School of Public Health at the John Hopkins University (USA), gave a special lecture yesterday on this issue, "which is getting more and more important and is global, especially in the Americas". The WHO Global Health Risks report, published in 2010 underlined that overweight or obesity is the fifth highest risk factor for death globally: it is responsible for 7% -8% in high income countries and 7% in middle income countries. **Page 3**



## ☆ Parallel Symposium

# Is the rapid growth of Type 2 diabetes in Asia due to genetic or dietary change?

**Professor Duo Li's research group from Zhejiang University found that plasma n-3 polyunsaturated fatty acids (n-3 PUFA) were inversely associated with insulin sensitivity and metabolic syndrome in Chinese populations.**

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Duo Li.

change in two decades. "Over the last 20 years, in China conventional food patterns have changed due to cultural interaction. Carbohydrate (does not include fine sugars) intake has fallen from 500g/head/day to 200g, lipid intake has increased from 20% of total energy to 37%, there have been no significant changes in protein intake as a percentage of total energy, although animal protein intake has doubled over the past two decades", explains Professor Li. "We still do not know which exact dietary factor is the most important predictor for T2D in Asia. One possible explanation is the influence of genetics on the incidence of T2D as suggested by the high levels of differentiation between different populations for the ensemble of T2D loci and the influences of gene-diet interaction", he says.

Professor Duo Li's group found that plasma n-3 polyunsaturated fatty acids (n-3 PUFA) were inversely associated with insulin sensitivity and metabolic syndrome in Chinese populations. Prospective studies also confirmed that for Chinese populations in Shanghai and in Singapore, n-3 PUFA was inversely associated with incidence of T2D. In contrast, many studies from the US and Europe showed zero or even positive association between n-3 PUFA and incidence of T2D. All these differences between Asian and US or European studies point to the possibility that gene-diet interaction may be an important explanation for the observed inconsistent association between n-3 PUFA and T2D incidence.

### Genetic backgrounds of different populations

It has been suggested that East Asians and sub-Saharan Africans experienced natural selection at loci associated with T2D, and there might be an evolutionary genetic basis for population differences in T2D. This is further supported by genome-wide association studies (GWAS) in which substantial differences were found between the GWAS-identified genetic loci associated with T2D for East Asian and European populations. For example, genetic variants in some genes associated with T2D only occurred in the GWAS of European populations, which

genetic variants in other genes associated with T2D only occurred in the GWAS of East Asian populations. This suggests that the genetic backgrounds for the risk of T2D vary between different populations. Given different T2D loci or frequencies of risk alleles between East Asian and European populations, these two populations may respond differently to exposure to the same marine n-3 PUFA in relation to the incidence of T2D.

We still do not know which exact dietary factor is the most important predictor for T2D in Asia

"It is reasonable to postulate that n-3 PUFA intake may interact with a number of T2D-related genes for the risk of T2D, and there may be a different interaction pattern for n-3 PUFA and the T2D-related genes for the risk of T2D in the East Asian and Caucasian populations. However, genetic information in relation to the T2D-related variants is not available in most publications, making it difficult to test this hypothesis. More randomized clinical trials are required to explore the cause of the rapid increase in T2D incidence in Asia", says Professor Li. ●

## ☆ Symposia

# Health programs based on physical activity can strengthen prevention

Overweight and obesity are well established as health risks, and the prevalence of these conditions is increasing rapidly in many countries around the world. There have been numerous calls to action to address the public health problem of overweight and obesity, from the World Health Organization and many national health authorities. It is clear that inactivity and low cardiorespiratory fitness increase the risk of cardiovascular disease and all-cause mortality, as well as for morbidity from several diseases or conditions. Yesterday, the symposia dedicated to *Active healthy living and prevention of chronic diseases* put the focus on the value of the physical activity in the improvement of the cardiovascular health. Obese individuals who are unfit, and low cardiorespiratory fitness in overweight or obese persons is as hazardous as having other risk factors. "The population attributable fraction is higher for low fitness

than for other conditions, including prevalent cardiovascular disease, for those who are overweight or obese. Public health programs and recommendations on obesity should include much greater

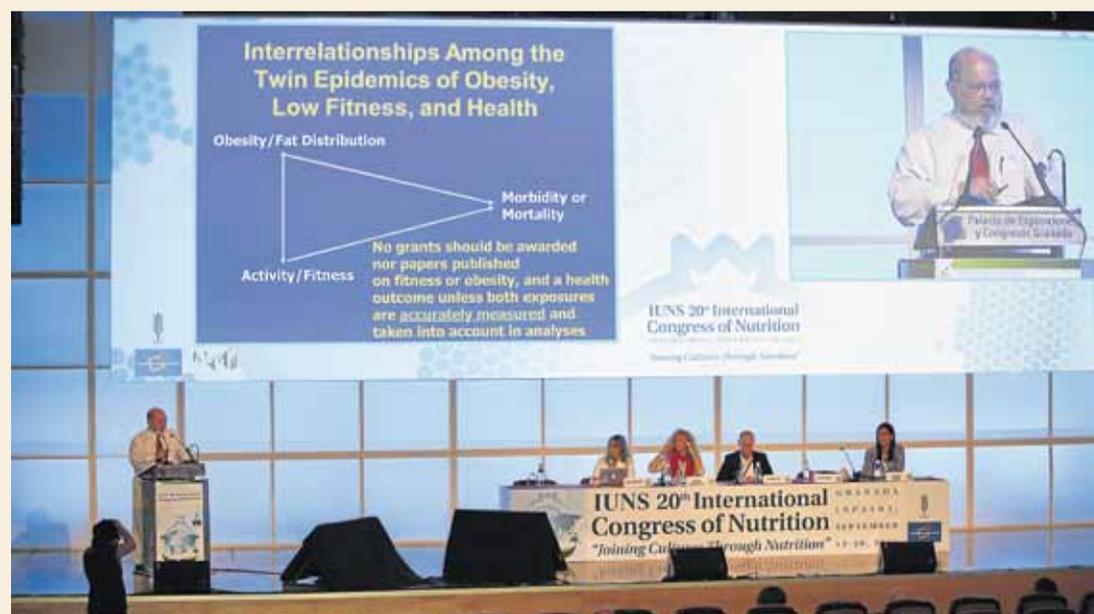
emphasis on physical activity for weight management than is done at present", said Steven N. Blair, Professor Faculty Affiliate, Prevention Research Center, University of South Carolina, United States.

In the Aerobics Center Longitudinal Study (ACLS) the PAR Questionnaire for low fitness in more than 50,000 women and men followed for many years is 16-17% of deaths. This is far higher than other putative risk factors for mortality. For example, obesity accounts for 2-3% of deaths in this cohort. "Over the past few decades we have largely engineered the need for physical activity at home, on the job, and during leisure-time out of the daily lives of most people in industrialized societies. To address the

major public health problem of physical inactivity we will need to consider and evaluate societal, environmental, and individual approaches to making physical activity more common for more people more of the time", resumed Professor Blair.

Athletes or physically active individuals show the effect beneficial exercise in the density of bone; that is the argument of Sandra Matsudo, from Study Center of Physical Ability of Sao Caetano del Sur in Sao Paulo, Brazil. The expertise of Matsudo in other previous research suggests that strategies aiming to improve muscle strength and lean mass must contribute to the bone health of physically active people.

John Duperly, professor at Department of Social Medicine in Universidad de los Andes Medical School, Bogotá (Colombia) explained the influence of the doctors in the physical activity habits of the citizens. Finally, Michael Pratts, Global Health Office for Global Health Promotion, National Center for Chronic Disease Prevention and Health Promotion Centers for Disease Control and Prevention (CDC), Atlanta, (United States) explained the links between nutrition and neuroprotection, cognition and mood effects of herbal extracts, nutrients and food supplements. ●



## ☆ SPRING Project

# New approach for integrated nutrition programs: based on leveraging agriculture

SPRING Project-JSI Research & Training Institute, with partners Helen Keller International, the Manoff Group, Save the Children and the International Food Policy Research Institute have presented the main findings of their research.

There have only been a handful of success stories in achieving large scale coverage, impact and sustained reductions in under-nutrition through integrated nutrition programs. Notable successes in changing key infant feeding practices have been achieved under the LINKAGES Project in Bolivia, Ghana and Madagascar and under the Essential System for Health in Ethiopia (ESHE) Project. Additional successes in integrated nutrition programming are emerging under current

USAID-funded projects, both globally and at the country level, in Nepal, Ethiopia and Bangladesh. Many more success stories exist in scaling-up single intervention programs, such as vitamin A supplementation and breastfeeding, and with interventions delivered through the social services sector. The Strengthening Partnerships Results and Innovations in Nutrition Globally (SPRING) USAID-funded project presented a retrospective and current review of USAID investments

in nutrition, including infant and young child feeding (e.g. Wellstart, LINKAGES, IYCN projects), micronutrients (OMNI, MOST, A2Z projects), nutrition and HIV (PEPFAR) and the Food for Peace program.

SPRING explained how USAID has leveraged multiple platforms for scale-up and outlined promising directions for the future. More recently, USAID has prioritized leveraging agriculture programs to improve nutrition through its Feed the Future initiative. SPRING, with the support of USAID, conducted a series of Agriculture-Nutrition Global Learning Evidence Exchange (AgN-GLEE) workshops that identified and shared practical emerging best practices in linking agriculture and nutrition.

Key elements of success identified through the AgN-GLEE were highlighted. With a view toward ongoing efforts in nutrition scale-up, including USAID's Feed the Future and Global Health Initiatives and within the Scaling Up Nutrition movement, SPRING will outline key steps to be considered for current and future nutrition scale-up projects, including documenting achievements and measures of success that go beyond coverage and impact to include dimensions of quality, capacity building and sustainability. ●



Christian Winger.

## ☆ Special Lecture

# Obesity epidemic for the rich and the poor



Benjamin Caballero.

Should the obesity of the rich and the obesity of the poor be considered as two epidemics? Benjamin Caballero, from the Bloomberg School of Public Health at the Johns Hopkins University, United States, gave a special lecture yesterday on this issue, "which is getting more and more important and is global, especially in the Americas".

The WHO Global Health Risks report, published in 2010 underlined that overweight or obesity are the fifth highest risk factor for death globally: it is responsible for 7% - 8% in high income countries and 7% in middle income countries. Caballero also stated that there are several challenges to face, because there are many links between poverty and obesity via diet and chronic non-communicable diseases, which according also to WHO 2010 data, are responsible for 2/3 of global mortality. 4/5 of these deaths occur in low and/or middle income countries and 1/3 occur in people under 60 years of age.

"Age-adjusted mortality is twice as high in low and/or middle income countries than in high-income countries", he added.

According to Dr Caballero, for the obesity epidemic to be tackled successfully there must be a concurrent impact on poverty. "Will successful programs to reduce poverty also have an impact on reducing the obesity epidemic?", he asked, adding that the recognition of the rights of the indigenous populations is another important challenge.

"We're still in time to study these issues in greater depth as conditions continue to improve despite the global crisis that started five years ago: a lot of South American countries are still growing, offering more access to healthcare and education. And it's the right time for all of us to work with economists, with demographers and other professionals in order to understand the broad components of the problem of the obesity epidemic", he concluded. ●

## ☆ Special Lecture

# Quick wins in nutrition policies in the WHO European Region

Yesterday afternoon Dr Joao Breda, the Programme Manager for Nutrition, Physical Activity and Obesity, presented his vision of the situation of the European region of the World Health Organization for combating problems with obesity and overweight, particularly in childhood. "There is a general lack of information and countries must improve their knowledge of what their current situation is and what the trend is" he said. "We will be encouraging the use and development of comparable methodologies which enable us to obtain a real pic-

ture of the situation" he added. According to Breda, it is important to demonstrate that measures can be taken which produce results quickly and easily. Breda was referring in particular to policies aimed at reducing the salt intake in our diet. He also mentioned the importance of policies aimed at reducing saturated fats and especially taking strong steps to reduce the use of trans-fats. "Some things have been done but it can still be reduced a lot more. There are a dozen or so countries which have firm policies aimed at reducing trans-fats, but most countries, especially the poorer ones,



Joao Breda.

do not have them". Breda also stressed the need to strengthen the tools required to fight physical inactivity. ●

As regards the methodology, "only 23 countries have developed tools which enable them to assess what their situation is and compare themselves with others" he explained. He also called for the protection and promotion of breastfeeding, something he considered fundamental for preventing obesity and non-communicable chronic diseases.

According to Breda, "we must define policies at the global level but there are some questions that national and regional governments can address quickly. The use of taxes, prices and other measures affecting the food industry are more difficult to implement. The coordination of global policies is crucial to enable us to improve the food industry and to ensure that we have global changes that benefit both rich and poor countries". He also confirmed that in its fight against childhood obesity the WHO takes the question of advertising aimed at children very seriously. ●

## Vienna Declaration

The Vienna Declaration will be presented today by Joao Breda. The Vienna Declaration on Nutrition and Non-Communicable Diseases in the Context of Health 2020 underlines the importance of cooperation across sectors: involving not only health but also other ministries in initiatives ranging from food-product reformulation and labelling, to school meals and international trade. It builds on the commitments of the 2006 European Charter on Counteracting Obesity and the new WHO policy framework, Health 2020.

✧ Next Congress update

# The IUNS Assembly chooses the next two host countries for the International Congress of Nutrition

Professor Alfredo Martínez is elected as President of the IUNS for the period 2017-2021

The second session of the IUNS General Assembly was held on Wednesday afternoon. It confirmed the election of Argentina as the host country for the 21st International Congress of Nutrition and its scientific society, the Argentinian Nutrition Society, as the host and organizer. As Ángel Gil, Congress President and President of the Spanish Nutrition Society explained, "Dr César Casávola, President of the Argentinian Nutrition Society, has asked the Ibero-American Nutrition Foundation (FINUT) and the Latin American Nutrition Society (SLAN) for their cooperation to help organize an excellent Congress. The IUNS will give all its support in the preparation of a high quality scientific program". The Assembly also voted that the 22nd Congress will be held in Japan. Japan was chosen by absolute majority amongst the various candidatures, with Ireland in second place and China third.



Lastly, the Assembly elected the new IUNS Council. Amongst other officers, Dr Anna Lartey was elected as President of the IUNS for the next four years (2013-2017). The Assembly also decided to elect Professor Alfredo Martínez as IUNS President for the period 2017-2021. Until now he has been a member of the IUNS and Chairman of the Scientific Committee at this 20th Congress held in Granada. ●

The Assembly also voted that the 22nd Congress will be held in Japan. Japan was chosen by absolute majority amongst the various candidatures

## Argentina is preparing the next Congress, which will be a "great responsibility"

**Mabel Carrera, former President of the Argentinian Nutrition Society, and Cesar Casávola, its current President declared that they were very happy to be hosting the next Congress which they accept will be a "great responsibility".**

As Mabel Carrera explained, "choosing Argentina meant choosing all of Latin America. Our intention is to work together with all the countries in our region and with the IUNS. We are currently laying out the general lines for the content". She also said that they intend to gather together the most important figures in nutrition worldwide with the support of the Ministry of Health and the Ministry of Science and Technology. "We will be inviting highly expert people. We hope everything goes as well as it has at this Congress in Granada", she emphasized.

Cesar Casávola, the current President of the Argentinian Nutrition Society said that this scientific society is now over 70 years old, making it one of the oldest in the country. It was founded by Dr Pedro Escudero, a pioneer in the field of nutrition in Latin America and in the world. "Support is important for channeling ideas, searching for references and carrying out activities before and after the Congress that will allow us to continue strengthening the ties. This will allow us to invite young researchers and people who are still being trained so that they can have direct access to great researchers and groups of thinkers", he explained. Mabel said that the Argentinian Nutrition Society always tries to ensure that its activities, despite being of a scientific nature, reach out to a wider community by promoting activities, marathons or bicycle rides. Lastly, Casávola underlined the cultural and tourist attractions of his country, which make it an even more attractive venue for holding an event like this one.



Mabel Carrera.



Cesar Casávola.

## Tokyo will host the 22nd IUNS Congress in 2021

On hearing the news, Hisanori Kato, the Trustee in charge of general affairs of the Japan Society of Nutrition and Food Science, said "It's a responsibility, but we will be ready because we will prepare everything well. We promise you the Congress will be a success". The venue is at the heart of Tokyo's city centre "so everybody can enjoy not only the science, but also the culture and attractions of the city and of Japan as a whole".

As he says, Japanese nutrition is unique: Japan has the longest life expectancy in the world and "we are very concerned about healthy eating. The traditional Japanese diet is very good and healthy and we have a very good system of school lunches. We also have functional food, which is specifically used for health benefits. Japan is now a leader in the science of nutrition". In his opinion, these lessons can easily be implemented all over the world. "We can provide all this information and people from all over the world can apply it and benefit from it".

"Nutrigenomics, the applied sciences and the different multidisciplinary approaches are changing the science of nutrition. I am specialist in nutrigenomics and I'm very confident about its power: you need to know everything that is happening in your body, rather than just examining a single molecule or a single phenomenon. Nutrigenomics provides an exhaustive way of finding out the response of the body to nutrients or other food factors. It's the beginning of a new era and, in the next few years, I'm sure the whole scenario will change", he remarked.



✧ Parallel Symposium

## Relationships between household food insecurity and obesity across the life course

Today, the Congress will be holding a parallel symposium about food insecurity and obesity. Household Food Insecurity (HFI) and obesity co-exist. However it is not clear if they are causally linked and how this relationship varies across the life course. Rafael Pérez-Escamilla, from Yale School of Public Health, USA, explains that “the answers to these questions have major public health nutrition implications for countries undergoing the epidemiological and nutrition transition”. Recent evidence from Brazil and the USA strongly suggests that this association is likely to be causal but that it varies according to the different stages in our lives. For example, it is strong amongst adults and adolescent women but is not present during childhood. The recently completed National Health and Nutrition Survey in Mexico (ENSANUT, 2012) also collected data to test the



Rafael Pérez-Escamilla.

relationships between HFI and obesity across the life course. Findings presented in this session have major public implications for

obesity and chronic disease prevention policies and programs in low, middle and high income countries. Alongside Professor Pérez-Escamilla,

the session will be chaired by Gilberto Kac, from the Federal University of Rio de Janeiro, Brazil.

This debate will present new perspectives and evidence from Brazil, Mexico and the United States to analyze household food insecurity and obesity risk across the life course. The meeting will also be attended by Teresa Shamah Levy, from the National Public Health Institute of Mexico and Ed Frongillo, from the University of South Carolina in the United States.

Previous results from studies by Gilberto Kac and Rafael Pérez-Escamilla, together with empirical evidence from Brazil and other countries, suggests that the particular phase in the nutrition transition in which countries find themselves must be taken into account when interpreting findings from studies examining the relationship between HFI and obesity risk across the life cycle. ●

### Notice to attendees

#### Publication of the 20th ICN Proceedings:

Proceedings of the Congress, which will include selected presentations for Plenary and Special Lectures, will be published in a forthcoming issue of the journal *Advances in Nutrition*. All 20th ICN meeting attendees will be able to access the proceedings from the journal website ([www.nutrition.org](http://www.nutrition.org)) upon publication. Registered attendees will receive information from the ICN on how to access the proceedings approximately one month before publication and also upon publication. Questions: please contact [journals@nutrition.org](mailto:journals@nutrition.org).

### CALL FOR APPLICATIONS

## 2<sup>ND</sup> PREMIO DANIEL CARASSO\* FOR OUTSTANDING RESEARCH IN SUSTAINABLE FOOD AND DIETS FOR LONG-TERM HEALTH

\*AN INITIATIVE OF THE DANIEL AND NINA CARASSO FOUNDATION

The Premio Daniel Carasso is an international award named after the founder of Danone in France and Dannon Co. in the US. It recognizes and encourages outstanding research in the field of sustainable food and diets for long-term health. The first Premio Daniel Carasso was awarded in 2012 to Jessica Fanzo, an American scientist known for her expertise in nutrition and the promotion of biodiversity. The Premio Daniel Carasso also paid tribute to her unwavering commitment to addressing world hunger through research in sustainable development. The award winner receives an amount of €100,000.

Application conditions for the 2<sup>nd</sup> Premio Daniel Carasso will be available as of November 4<sup>th</sup>, 2013. For more information: [www.premiodanielcarasso.org](http://www.premiodanielcarasso.org).

premio daniel carasso  
sustainable food and diets for long term health

☆ IUNS Award

## Recognition of the work of Kraissid Tontisirin in the fight against malnutrition

Yesterday morning was the presentation of the IUNS Award for outstanding contributions to nutrition of regional or global significance by an individual working in a developing country. The winner was Kraissid Tontisirin, Emeritus Professor of Pediatrics at the Faculty of Medicine, Ramathibodi Hospital and a Senior Advisor of the Institute of Nutrition at Mahidol University, Thailand.

Anna Lartey, new president of the IUNS 2013-2017, and Ibrahim Elmadfa, outgoing President, presented the Award to the Thai researcher. Lartey described Dr Tontisirin's career as "a life devoted to scientific research and the development of health policies for reducing malnutrition in his country and improving global health".

"Even with political commitment, resource mobilization and nutrition objectives, goals and indicators incorporated into development plans, it took at least 5 to 10 years to see the impacts. The success of the implementation program can best be guaranteed by multiple strategies and actions linking macro policy and strategies with actions at community level", said Professor Tontisirin. He explained that the provision of basic social services with strong people participation at community level is crucial for



high coverage and effective actions. "Nutritionists can contribute to nutritional well-being for all by connecting and working with other disciplines in addition to research, teaching and services", he said.

Professor Tontisirin is a member of the International Award Committee of the Prince Mahidol Award Foundation, Chairman of the Policy Board of the Thai Research Fund, Chairman of the Evaluation Board of the Thai Health Promotion Foundation, a member of the Prime Minister's National Food Committee and the Chairman of the Committee for drafting "National Food Strategies for Thailand", a member of the Ministry of Agriculture Food Standards Committee, and Chairman of the Organizing Committee of the International Congress of Nutrition held very successfully in Bangkok in October 2009 with over 4,200 participants from 106 countries.

Professor Tontisirin was actively involved as a member of the Poverty Alleviation Plan and has also acted as a consultant in nutrition to FAO, WHO, UNICEF and the WB. His contribution to the reduction of child malnutrition has been widely recognized. He received the M.D. with honors from Mahidol University in 1968, and his PhD in Nutrition from M.I.T. in 1973, training as a pediatric intern at Vanderbilt University Hospital and as a junior pediatric resident at Boston Children Hospital. ●

☆ Special Lecture

## Teaching energy balance skills

Professor James O. Hill upholds better cognitive tools to people, particularly to children, to be active participants in managing their own body weight

The basic components of energy balance include energy intake, energy expenditure, and energy storage. Body weight can change only when energy intake is not equal to energy expenditure over a given period of time. Humans take in energy in the form of protein, carbohydrate, fat, and alcohol. Humans expend energy through resting metabolic rate, which is the amount of energy necessary to fuel the body at rest; the thermic effect of food, which is the energy cost of absorbing and metabolizing food consumed; and the energy expended through physical activity. When energy intake equals energy expenditure, the body is in energy balance and body energy, generally equivalent to body weight, is stable.

"Looking at reducing obesity through the lens of the energy balance framework provides the opportunity to recommend specific strategies to reduce obesity. The major components of energy



James O. Hill.

balance –energy intake, energy expenditure and body energy stores– are interrelated and changes in one component affects the others", said James O. Hill, Executive Director, Anschutz Health and Wellness Center Anschutz and Professor of Pediatrics, Medicine, and Physiolo-

gy & Biophysics at University of Colorado, United States. Dr Hill was the author of the special lecture 'Energy balance and obesity' which took place on Tuesday in Congress.

However, the time period over which energy balance may be controlled or regulated is not well un-

derstood. Differences in the time frame over which energy balance occurs between individuals may be important and may explain the large variability in individual responses to weight loss interventions and

When energy intake equals energy expenditure, the body is in energy balance and body energy, generally equivalent to body weight, is stable

other perturbations to the energy balance system.

Factors that impact body weight must work through the components of energy balance. From an energy balance point of view, both food intake and physical activity must be addressed to impact body weight.

Because of the way that energy balance is regulated, increasing physical activity is going to be essential to reducing obesity. "Accomplishing an increase in physical activity in the population will allow us to focus on promoting smarter eating and would reduce the need for dramatic food restriction, which has not been effective in reducing obesity", explained professor Hill.

"Using an energy balance framework, it should be more achievable to prevent weight gain than to produce and maintain weight loss", added. This is because weight loss produces compensatory changes in energy balance that serve to promote weight regain. "We must also recognize the impact of our environment on energy balance. In our current environment, maintaining a healthy body weight for most people requires using cognitive skills to help overcome biological tendencies to overeat and underexercise", he said. In conclusion, Hill considers that "teaching energy balance skills to people, particularly to children, could equip them with better cognitive tools to be active participants in managing their own body weight". Simultaneously, is important to continue efforts to modify the physical environment to make healthier choices more available and more accessible while increasing their perceived value by consumers. ●

## Congress moments



Members of Barceló Congresses team, the congress organizers.



Meet the Press team, the editors of this newspaper.



The technical problems were solved by Brähler Company.



The exhibition area was Granada's meeting point during these days.



The volunteer team made an outstanding job.



Young journalists were also interested in the Congress.

### ✦ Symposium report

## Protein requirements for optimal health throughout all life stages

**"As the world's population increases rapidly and against the constraints of limiting land, water and food resources, it is more important than ever to be able to define accurately the amount and quality of protein required to meet human nutritional needs and describe appropriately the protein supplied".**

*(Dietary protein quality evaluation in human nutrition: Report of an FAO Expert Consultation 2013)*

Given the importance of protein in today's world, a symposium to discuss this topic was a timely inclusion in this week's Congress programme. **Professor Paul Moughan**, from Massey University's Riddet Institute in New Zealand, chaired the FAO Expert Consultation, making an appropriate opening speaker in an impressive line-up at Monday evening's session. Professor Moughan defined protein quality as the amount of dietary indispensable amino acids in a protein and how much they can be used for protein synthesis. Describing protein quality accurately is a fundamental need in many nutrition activities. To date, the most commonly used measurement method has been the protein digestibility corrected amino acid score (PDCAAS). Less than ideal on several counts, this method has been revised as a result of the FAO Expert Consultation. The Consultation recommends the 'digestible indispensable amino acid



Paul Moughan.

score' (DIAAS). A key difference between the two scores is true ileal amino acid digestibility being used for each amino acid rather than a single faecal crude protein digestibility value. This marks a significant step forward in describing the amount of each amino acid absorbed. The other symposium presenta-



Rajavel Elango.

tions examined the protein requirements of specific population groups. **Professor Rajavel Elango**, from the University of British Columbia in Vancouver, has extensive experience researching protein recommendations for children. Many recommendations are based on requirements for growth and

maintenance, maintenance relying on nitrogen balance studies carried out in adults. This methodology has obvious drawbacks, so Professor Elango has championed use of the Indicator Amino Acid Oxidation (IAAO) technique. Being a less invasive method, it has been used successfully in children, with a significant underestimation of requirements being shown. Professor Elango says there is an urgent need to re-assess current protein recommendations.

So often in nutrition we say 'some is good, but more is not necessarily better'. Protein requirements in older adults might be the exception to this rule. Up to 40% of free-living individuals over 80 years may be considered frail, with age-related sarcopenia (muscle loss) leaving many immobile and with reduced life expectancy. Diet and exercise represent two effective interventions to reduce such decline, with protein a key nutrient. Protein requirements are often based on ensuring nitrogen balance. When protein intakes are low, however, the body breaks down lean body mass in order to maintain nitrogen balance. In older people, this can lead to accelerated sarcopenia and frailty. Older people also respond slower, in terms of protein synthesis, when eating or exercising, i.e. slower tissue remodelling. **Professors Nancy Rodriguez and Caryl Nowson**, from the University of Connecticut and Australia's Deakin Universi-



Caryl Nowson.

ty respectively, outlined research suggesting dietary protein requirements may well be higher than current recommendations suggest; functional outcomes becoming an increasingly important measure. Professor Rodriguez also addressed the myth around protein and bone health, dismissing claims increased protein increases calcium losses. At least two meals a day, one of which is breakfast, each containing 25-30g of high quality protein, has been proposed to maximise muscle protein synthesis.

*This symposium was sponsored by the International Meat Secretariat Human Nutrition and Health Committee.*

*Symposium video available from [www.meat-ims.org](http://www.meat-ims.org)*

## ☆ Conclusions

# The IUNS 20th International Congress of Nutrition sets the basis for a global agreement to combat obesity

Halting the exponential growth of obesity in the world requires new strategies. The IUNS 20th International Congress of Nutrition, which concludes today in Granada, has provided a forum for discussing the needs and establishing the new approaches on which to base these strategies. "The basis for combating obesity has been established at this Congress. Now we need to reach an agreement. This may take years and must involve public and private bodies. Both should work together to reach global agreements to solve a public health problem which affects us all and which has started to take on plague-like proportions", stressed Professor Ángel Gil, President of the Congress.

These types of public-private partnership agreements have already been reached in other areas of public health. One example is the GAVI alliance to develop vaccines and public vaccination programmes, which has reduced the morbidity and mortality of many diseases worldwide.



Ángel Gil.

The Congress has been notable for its high scientific content. "This Congress has had the highest level of scientific content in the last 20 years, thanks to the inclusion in the programme of international projects in progress that have been presented over the last few days and the announcement of

the latest conclusions from all the studies", commented Professor Gil. The studies presented in Granada have shown the role of nutrition in the prevention and treatment of diseases. One example is the control of malaria, in which appropriate iron intake has been shown to play a role, or the importance of diet

in the first years of life to prevent stunting. "The environment and inadequate food have an impact on childrens' physical development and capacities. Various strategies have been put forward at this Congress to remedy these problems, such as supplementation with zinc and iron". Other interesting advances presented at the Congress included data on the combination of diet and physical activity and how they interact to prevent chronic diseases and others associated with ageing, such as Alzheimer's, and the basis for integrating nutrition into environmental sustainability has also been established. "The conclusions we have reached can prepare a route for many developing countries to follow to ensure that their food production is sustainable over time and meets nutritional requirements", commented Professor Gil. The conclusions from the 90 symposia held during the congress will be published in a special edition of the journal 'Advances in Nutrition'.

## ☆ Congress Organizer

### The largest congress ever held in the city



Begoña Ruiz.

Barceló Congressos, the Professional Congress Organizer in charge for the ICN 2013 in Granada, indicates that this meeting was most probably the largest congress ever held in the city. Begoña Ruiz, the Senior Project Manager of Barceló Congressos states "this is by far not the largest meeting we have organised but it was one of the most challenging ones due to its complexity with all concurrent activities taking place not only at the venue but in the city. To our knowledge this congress has broken records in terms of attendance, exhibition space and collaboration with sponsoring entities. We are very proud of being part of this exciting project and to having contributed to the success and professional outcome of the congress".

Barceló Congressos is one of the leading Congress Organizers in Europe and Latin America and has managed numerous national and international nutrition meetings developing strategic partnerships in the nutrition field.

## ICN Connecting people through nutrition



From left to right: Sk Roy, Soofia Khatoon and Khurshid Jahan, Bangladesh

"We'll come back home with new findings, new thinking, new recommendations on new areas of research and we'll continue our work to reduce infection, child malnutrition and high mortality. It's a challenge: how to provide good nutrition to the poorer segments of population without enough resources".



Robert Ackatia-Armah, Ghana

"My speciality is malnutrition management. I have been doing studies in west Africa with moderate acute malnutrition. The only difficulty is attend all what interests you, because there is a lot of interesting and very good sessions at the same time".

Uthaiwan Suttisansanee, Thailand

"I've got an INF fellowship and it's nice to meet other fellows from all over the world and talk with them after their presentations. I specialize in enzymology and I'm interested in functional food".



## twitter

### #20icn



Vicky Pirogianni  
@vpirogiani



Obesity the 5th leading risk for death globally. #ICN20  
FYI Physical inactivity the 4th!



Corinna Hawkes  
@CorinnaHawkes



Let's demand a healthy food policy! The Bellagio Declaration 2013 released at #ICN20 today. [iaso.org/site\\_media/upl...](http://iaso.org/site_media/upl...)



Sandra Crispim  
@EpiNut



@DrPMitrou: New initiative on web-based research infrastructure to support international monitoring and epi nutritional studies #icn20"



Luis Fontana Gallego  
@fontanagallego



ICN2017 will be held in Argentina and ICN2021 in Tokyo, Japan. I'm attending both! #ICN20



Drs. Paola Harwicz  
@nutriariared



#ICN20 #bone Bone mass is 20% higher in active children, More if physical activity generates high impact in bones