

## 1. EDITORIAL

### CIEAH NEWS:

Scientific Session at the Royal Academy of Medicine, Madrid

## 2. HEALTH PROFESSIONALS CORNER:

First 2017 Meeting of the International Chair Of Advanced Studies On Hydration: I International Workshop

## 3. CIEAH EVENTS:

Meeting On Sweeteners: Lisbon 2017  
2<sup>nd</sup> Latin American Conference On Hydration

HYDRATION SCIENTIFIC LIBRARY: Overdrinking and Brain Responses

## 4. WHAT'S NEW?: NUTRIENTS

WEBSITE NEWS: The CIEAH unveils its website

# CIEAH Update

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International Chair  
for Advanced Studies  
on Hydration



Cátedra Internacional  
de Estudios Avanzados  
en Hidratación



UNIVERSIDAD DE LAS PALMAS  
DE GRAN CANARIA



## EDITORIAL

Professor

**Lluís Serra-Majem**

Director of the International Chair  
in Advanced Studies in Hydration (CIEAH)

### WELCOME TO CIEAH

As Director of the International Chair in Advanced Studies on Hydration (CIEAH), created in October 2016 to continue the work of the European Hydration Institute, I am very proud to present this first Newsletter. Working under the Research Institute of Biomedical and Health Sciences (IUIBS) of the University of Las Palmas de Gran Canaria, we aim to conduct and promote research projects on human hydration and healthy lifestyles. The CIEAH is funded and managed by the Science Technology Park of the University of Las Palmas de Gran Canaria and pursues the following objectives:

- Promote scientific research to better understand the role of hydration in health, well-being and physical and cognitive performance.

## THE INTERNATIONAL CHAIR FOR ADVANCED STUDIES ON HYDRATION (CIEAH)

- Prepare reports and conduct technical studies on professional activity associated with hydration in the context of promoting healthy lifestyles.
- Organise and hold training activities for professional updating such as courses, seminars and conference cycles in the field of hydration.
- Support the publication of monographs and technical papers on topical issues related to the CIEAH objectives.
- Facilitate the exchange of information, opinions and knowledge about hydration among scientists and health professionals and inform the general public to help them lead a healthy lifestyle.
- Conduct sociological research to understand consumer knowledge, attitudes and behaviour in relation to hydration.
- Develop tools designed to improve research and draw up recommendations about hydration.

- Collaborate with other institutions to advance research on hydration and applied knowledge to assist and support health professionals and at-risk populations.

The CIEAH includes a Scientific Advisory Committee made up of members who are independent scientific experts and key opinion leaders in health and nutrition, representing a range of areas in the science of hydration and its relation to health and physical performance: Dr Javier Aranceta Bartrina, Director for Latin America; Dr Ángel Gil Hernández; Dr Gregorio Varela Moreira; Dr José López Calbet; Dr Luis Peña Quintana; Dr Maria Kapsokefalou; Dr Sergio Ruiz Santana and Dr Tommaso Bochicchio Riccardelli.

The activities of the CIEAH will increase community wealth in the area of human hydration and stimulate the flow of knowledge and technology between universities, research institutions, companies and markets, fostering development and spreading the culture of innovation.

## CIEAH NEWS

### SCIENTIFIC SESSION AT THE ROYAL ACADEMY OF MEDICINE, MADRID

On 23 May 2017 the CIEAH held a SCIENTIFIC SESSION at the Royal Academy of Medicine in Madrid, entitled "HYDRATION AND HEALTH FROM SCIENTIFIC EVIDENCE".

The objective of the session was to present the International Chair in Advanced Studies on Hydration, attached to the Research Institute of Biomedical and Health Sciences (IUIBS) of the University of Las Palmas de Gran Canaria (ULPGC).

The programme included an INTRODUCTION AND WELCOME by Prof. Dr Manuel Díaz-Rubio, Honorary President of the Royal

Academy of Medicine, and Prof. Dr José Pablo Suárez Rivero, Vice Chancellor for Research, Innovation and Transfer of the ULPGC.

The event was opened by Prof. Dr Javier Aranceta-Bartrina, Director of the CIEAH for Latin America and lecturer at the University of Navarra, Pamplona, Spain, who talked about INTERNATIONAL AND NATIONAL HYDRATION CONCEPTS, GUIDELINES AND RECOMMENDATIONS.

He was followed by Prof. Dr Lluís Serra-Majem, Director of the CIEAH and Director of the Research Institute of Biomedical and

Health Sciences of the University of Las Palmas de Gran Canaria, who talked about EVIDENCE-BASED HYDRATION.

The event was attended by participants from a wide range of universities, Institutes and organisations from across Spain.

For more information, please see:

[www.cieah.ulpgc.es](http://www.cieah.ulpgc.es)



REAL ACADEMIA  
NACIONAL DE MEDICINA

HEALTH PROFESSIONALS CORNER

# FIRST 2017 MEETING OF THE INTERNATIONAL CHAIR OF ADVANCED STUDIES ON HYDRATION: I INTERNATIONAL WORKSHOP



In January, the CIEAH held the First International Workshop for 2017, entitled Advanced Studies on Hydration, at the University of Las Palmas de Gran Canaria (ULPGC), Spain. For two days, 20 Spanish and international speakers revealed the latest studies on hydration management from perspectives including methodology, sport, health and social outlook. The Director of the CIEAH, Dr Lluís Serra-Majem, opened the workshop with the official launch of the International Chair.

The event included contributions from leading scientists, starting with the inaugural lecture by Professor

of Nephrology at La Salle University (Mexico City), Dr Tommaso Bochicchio Riccardelli, who talked about "Osmolarity as an indicator of hydration status".

Focusing on sports, Dr José López Calbet, from the Human Performance, Physical Activity and Health Group of the ULPGC, spoke about "Exercise-associated hyponatremia". Other sessions were given by the President of the Scientific Committee of the Spanish Society of Community Nutrition (SENC), Dr Javier Aranceta-Bartrina, who spoke about "Challenges of the science of hydration in Latin America", and the President of

the Spanish Nutrition Foundation, Dr Gregorio Varela Moreira, whose talk was on "Improving global hydration".

The Technical Advisor of the Spanish Climate Change Office, Ministry of Agriculture and Fisheries, Food and Environment, María José Alonso Moya, analysed "Climate change and water challenges". The event concluded with "Closing remarks and conclusions" given by the Director of CIEAH, Dr Lluís Serra-Majem.

## CIEAH EVENTS

MEETING ON  
SWEETENERS:  
LISBON 2017

The CIEAH will be taking part in a key event this autumn: the Meeting on Sweeteners: safety, nutritional aspects and benefits in food and beverages. Ibero-American Consensus. The event will be held in Lisbon, Portugal, on 3 and 4 July.

Details are available at:  
[www.fundacionnutricional.org](http://www.fundacionnutricional.org)

2<sup>ND</sup> LATIN  
AMERICAN  
CONFERENCE  
ON HYDRATION

The CIEAH will be presented at the 2<sup>nd</sup> Latin American Conference on Hydration, on 21 June 2017 at the WORLD TRADE CENTER in Mexico City.

More info:  
[http://www.cmim.org/f201716\\_congreso.php](http://www.cmim.org/f201716_congreso.php)



## HYDRATION SCIENTIFIC LIBRARY

OVERDRINKING AND  
BRAIN RESPONSES

Drinking is essential behaviour for human survival and allows us to maintain fluid balance in the body. It replenishes fluid losses and satisfies the thirsty feeling that accompanies dehydration. Normally the volume of water drunk in response to thirst matches the deficit. However, it is not known exactly how this almost perfect measurement is achieved. Water intake by healthy people matches their hydration levels, although this ability can be lost in old age and in certain illnesses.

Some media have recently published articles about the danger of overhydration, although this situation is uncommon. The first cases of death due to overhydration were detected in the 1980s in competitors in endurance events (more than four hours) who suffered a hydroelectrolytic imbalance due to increased water consumption and decreased sodium consumption. This is known as water intoxication or hyponatremia and results in increased intracranial pressure, headache, vomiting, confusion and seizures, and could also lead to coma and death if not corrected with administration of saline solutions to recover the balance.

No endurance sport or race (longer than four hours) is a health risk if athletes control their level of hydration and consume enough sodium during activity. However, they must have professional advice.

A recent brain imaging study led by Dr Saker and colleagues, conducted at Monash University in Australia, confirms the existence of “swallow inhibition”; i.e. a switch from effortless swa-

llowing to swallowing with effort. This is how the body prevents overhydration. The Australian study used magnetic resonance imaging to record brain activity and the effort involved in drinking-water intake in two situations: with thirst after intense exercise, and without thirst after consuming large amounts of water. In the cases of excessive consumption, brain tests showed prefrontal hyperactivity associated with inhibition of the swallowing reflex. That is, there was a sensation of “closing the throat” and up to three times more effort was required to swallow the liquid.

The recommendation for the healthy population remains clear. If we do what our body demands from us, we will probably be doing the right thing: drink according to the thirst we feel. However, we need to remember that the elderly often do not drink enough and should watch their intake of fluids.

**References:**

Saker P, Farrell MJ, Egan GF, McKinley MJ, Denton DA. Overdrinking, swallowing inhibition, and regional brain responses prior to swallowing. *Proc Natl Acad Sci U S A*. 2016; 25;113(43):12274-12279

WHAT'S NEW?

NUTRIENTS

With the publication of the final article on hydration, in April 2017, the CIEAH and NUTRIENTS, one of the most important open access journals on human nutrition published online by MDPI, has completed the special issue "Beverage Consumption Habits around the World: Association with Total Water and Energy Intakes".

This issue has been well received among the scientific community, which has responded to the proposal with enormous interest. About 25 papers were published in the supplement, on studies conducted in a variety of settings and among diverse populations around the world. The papers published in the volume are a valuable milestone on our journey to understanding the impacts of hydra-



*nutrients*

an Open Access Journal by MDPI

tion on health and disease and will be useful for planning future studies.

[http://www.mdpi.com/journal/nutrients/special\\_issues/energy\\_intakes](http://www.mdpi.com/journal/nutrients/special_issues/energy_intakes)

Those of us engaged in nutrition research greatly appreciate the hard work of our colleagues who produced this volume documenting our progress to date.

The originals are available in PDF on the CIEAH website: [www.cieah.ulpgc.es](http://www.cieah.ulpgc.es)

WEBSITE NEWS

THE CIEAH UNVEILS ITS WEBSITE

The CIEAH now has an efficient communication channel: [www.cieah.ulpgc.es](http://www.cieah.ulpgc.es)

The website includes evidence-based information about hydration and educational materials relevant to a range of population groups (families, education professionals, pregnant or breastfeeding women, the elderly, athletes, students...). There is an area specifically for health professionals (medical doctors, nutritionists, dieticians, nurses...) with a comprehensive and up to date library of scientific publications on hydration, notices of upcoming congresses and events, educational material and video conference presentations.

The website also covers hydration news aimed at the general population.

Future issues of this free newsletter will be available quarterly from our website – please visit: [www.cieah.ulpgc.es](http://www.cieah.ulpgc.es) to find out how to register to receive them.

