

UIMPUniversidad Internacional
Menéndez Pelayo

XVIII Teófilo Hernando's International Summer School of Pharmacology

Frontier Biomarkers and Drug Discovery for the Early Diagnosis and Treatment of Alzheimer's Disease

(July 1-5, 2019, Palace of La Magdalena, Santander, Spain)

Antonio G. García

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www.UIMP.es

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PROGRAMME

Monday, July 1:

- 10:00 *School inauguration by director and a UIMP academic authority*
- 10:30 **Opening lecture: Alzheimer's disease: a personal view on early diagnosis and treatment.**
Dr. John Hardy
University College London, UK
- 12:00 **Coffee**
- 12:30 *Down's syndrome and Alzheimer's disease*
Juan Fortea
Hospital Santa Creu e Sant Pau
Barcelona, Spain
- 14:00 **Lunch**
- 15:00 *Young Researcher Presentations (YRP-1)*
Coordinator: Luis Gandía (IFTH/UAM, Spain)
- 17:00 **Free**

Tuesday, July 2

- 10:00 *Mitochondria and Alzheimer's disease*
Michael Duchon
University College London, UK
- 11:30 **Coffee**
- 12:00 *Can transcranial infrared brain stimulation delay Alzheimer's onset?*
Jack C. de la Torre
Department of Neuropsychology
University of Texas at Austin, USA
- 13:30 **Lunch**
- 15:00 *Young Researcher Presentations (YRP-2)*
Coordinator: Luis Gandía (IFTH/UAM, Spain)
- 17:00 **Free**

Wednesday, July 3

- 10:00 *Calcium dyshomeostasis as a common pathogenic feature of neurodegenerative diseases*
Antonio G. García
Instituto Fundación Teófilo Hernando
Universidad Autónoma de Madrid, Madrid, Spain
- 11:30 **Coffee**

- 12:00 *The P2X7 receptor: a neglected lead character in Alzheimer's disease*
 Francesco Di Virgilio
 University of Ferrara, Ferrara, Italy
- 13:30 **Lunch**
- 15:00 *Young Researcher Presentations (YRP-3)*
 Coordinator: Luis Gandía (IFTH/UAM, Spain)
- 17:00 **Free**

Thursday, July 4

- 10:00 **Predicting the future development of mild cognitive impairment and dementia in the cognitively healthy elderly**
 Miguel Medina
 Deputy Scientific Director; CIBERNED, Spain
- 11:30 **Coffee**
- 12:00 *Circulating microRNAs as diagnostics for preclinical Alzheimer's disease*
 Tobias Engel
 Royal College of Physicians of Ireland, Dublin, Ireland
- 13:30 **Lunch**
- 15:00 *Young Researcher Presentations (YRP-4)*
 Coordinator: Luis Gandía (IFTH/UAM, Spain)
- 17:30 **Free**
- 20:30 **Traditional informal dinner of professors and students at Restaurant “La Nueva Gaviota”, at the fishermen neighbourhood of Santander**

Friday, July 5

- 10:00 *Drug discovery for Alzheimer's disease at the Instituto Fundación Teófilo Hernando, Universidad Autónoma de Madrid*
 Manuela García López
 Instituto Fundación Teófilo Hernando
 Universidad Autónoma de Madrid, Madrid, Spain
- 11:15 **Coffee**
- 11:30 *Closing lecture: Drug development for Alzheimer's disease –is there a continuing failure in clinical trials or is a near breakthrough expected?*
 Manfred Windisch
 Neuroscios
 Austria
- 13:00 Closing ceremony by director and a UIMP academic authority

Focus

The Teófilo Hernando's International Summer School of Pharmacology of the Universidad Internacional Menéndez Pelayo (UIMP) took this name to honour the memory of Professor Teófilo Hernando who, at the beginning of the XX century, introduced pharmacology as an academic subject and as a science at Spanish University. The School was started in 1996. Since then, 17 editions on different medical themes have been run.

Classically, the School is organised in 10 morning sessions in which renowned international scientists participate as speakers. In the afternoon sessions, 24 young researchers present short communications followed by ample discussions, on their predoctoral or postdoctoral work.

This 18th edition focuses on biomarkers and early pathogenic feature of Alzheimer's disease, that may improve more successful outcomes in clinical trials and the potential of potential medicines to delay the appearance of phenotypic symptoms and disease progression.

The enormous burden of Alzheimer's disease to society is growing due to population ageing and the lack of preventive or therapeutic strategies to delay disease progression. Thus, we expect that deep analysis of frontier knowledge and live debates, two characteristics of this School, will shed light on early pathogenic mechanisms and improve the therapeutic perspectives to mitigate such burden to patients and their families.

ABOUT THE INTERNATIONAL MENÉNDEZ PELAYO'S UNIVERSITY (UIMP)

UIMP was created on August 23, 1932 as a result of the approval of a foundational decree proposed by the Minister for Public Education and Arts, Fernando de los Rios. Courses started in 1933 under the leadership of Ramón Menéndez Pidal and Blas Cabrera from 1934 to 1936 and the poet Pedro Salinas as Secretary General. This could explain the strong emphasis in humanities and Spanish language courses as well as in political, economical and social sciences of UIMP. However, the summer programme has also traditionally hosted advanced courses in physics, chemistry, mathematics, medical and other sciences.

In the 1940s the University adopted its current name after Marcelino Menéndez Pelayo, a Spanish historian born in Santander, where the most traditional and famous campus of this University is located. The "Universidad Internacional Menéndez Pelayo" (UIMP) was created to foster a better relationship between professors and doctoral and postdoctoral students, during summer courses that lasted several weeks and at its earlier time, during the whole summer. The idea was to create an informal atmosphere for discussion and analysis of different topics in the frontier of knowledge. This strongly contributed to the intellectual maturation of young students as well as to the development of a critical and liberal attitude toward problems and people, in an atmosphere of open spirit and intellectual relevance.

During the last decades UIMP has diversified the type of courses and activities, of short (few days, one week) and longer duration (weeks to months) and has recently established PhD

programmes in collaboration with the National Research Council (CSIC) and other private and public institutions. Eighty years after its foundation, the UIMP is still a benchmark in the Spanish educational arena.

UIMP has different campuses throughout Spain and courses are held along the year. UIMP directly depends on the Spanish Ministry of Education that elects its Rector among renowned University Professors (For more information visit UIMP site at <http://www.uimp.es>).

SUMMER COURSES IN LA MAGDALENA PALACE

The most famous campus of UIMP is La Magdalena Palace, located in Santander, North of Spain.



This palace was built at the beginning of the XX century and was gifted by the city of Santander to the Royal Family (Alfonso the XIIIth), for his summer vacations. This helped to develop Santander and its beaches and mountains surroundings, as one of the most beautiful tourist sites of Spain. In fact, Santander is actually considered as one of the most attractive cities of Spain due to the extraordinary combination of mountains, the Atlantic Ocean, the green and colourful gardens and the forests of Cantabria, the Autonomous Spanish Community having as capital Santander. Professors and students coming from abroad get unanimously astonished with the beauty of the Magdalena Palace, surrounded by forest, beaches (i.e. the famous “El Sardinero” beach) and beautiful and well kept colourful gardens where professors and students can gather together, in the lecture hall, at the restaurants or walking in the surroundings of the palace and the Caballerizas, the place where the horses were kept at the time of the Royal family vacations, and now a residency and some lecture halls.

THE TEÓFILO HERNANDO'S INTERNATIONAL SUMMER SCHOOL OF PHARMACOLOGY: ORIGIN, DEVELOPMENT AND ACTIVITIES

The Teófilo Hernando's School of Pharmacology (THSP) was initiated in 1996, in the frame of the summer courses of the UIMP. At that time, Rector José Luis García Delgado invited professor Antonio G. García (Autonomous University of Madrid) to organise this School. The courses are held at the magnificent Palace of la Magdalena, located on top of a hill at the Peninsula of La Magdalena.

The format of a UIMP's School ("Escuela") is based in the critical analysis in the frontier of knowledge of a given scientific topic, along a week (Monday to Friday) by scientists and students of all over the world. Emphasis is always made in drug discovery and development as well in basic research that illuminate on the identification of new biological drug targets for treating disease. The THSP was named after Teófilo Hernando, a Spanish MD/PhD pharmacologist who was trained under Oswald Schmiedeberg at Strassbourg, the first formal Pharmacology School where many pharmacologists were trained at the beginning of the XX century and then developed the subject of basic and clinical pharmacology all over the world. Teófilo Hernando introduced pharmacology as an independent teaching and science subject at the Central University of Madrid, along the first four decades of the XX century. He trained numerous other disciples that extended the subject to many other Spanish universities along the XX century.

Since 1996, 17 editions of the THSP have been held. Over 100 internationally recognised scientists and over 500 students have since then attended the THSP. The subjects of the subsequent schools were as follows:

- 1.-Drugs and their receptors (1996)
- 2.-Drugs for the brain (1997)
- 3.-Clinical trials in Spain (2000)
- 4.-Biotechnological drugs (2001)
- 5.-Alzheimer's disease (2002)
- 6.-Drugs and cardiovascular risk (2003)
- 7.-Chronic inflammation and osteoarthritis (2008)
- 8.-Neurodegenerative diseases (2009)
- 9.-The language of neurons (2010)
- 10.-Neuroprotection and neuroreparation of the injured brain (2011)
- 11.-New concepts and strategies for neuroprotection (2012)
- 12.-Brain damage and repair (2013)
- 13.-Frontier drug discovery in brain disease (2014)
- 14.-New therapeutic targets in brain disease (2015)
- 15.-Alzheimer's and other neurodegenerative diseases: Pharmaco-therapeutic advances (2016)
- 16.-Understanding the human brain (2017)
- 17.- Frontier therapies in brain diseases: focus on purinergic signalling (2018)