

XV Summer “Teófilo Hernando’s” School of Pharmacology

of the
Menéndez Pelayo’s International University
(UIMP, Universidad Internacional Menéndez Pelayo)

Alzheimer’s and other neurodegenerative diseases: pharmaco-therapeutic advances

(July 25-29, 2016, Santander, Spain)

Directors:

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Coordinator:

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You can find information regarding UIMP course in the following web pages
http://www.uimp.es/agenda-link.html?id_actividad=62IH&anyaca=2015-16
<http://goo.gl/qEEfx6>

Fellowships:

- a) Directly at **UIMP**: From April 18 to June 13, 2016
- b) At **Fundación Teófilo Hernando** (Arturo García de Diego; email arturo.garcia@uam.es): From April 18 to July 10, 2016

DRAFT PROGRAMME

Monday, July 25:

- 10:00 Inauguration by UIMP authorities and School directors
- 10:30-12:00 Inaugural Lecture: Glutamate release and short-term plasticity at the Calyx of Held synapse
Erwin Neher (Nobel Prize of Physiology or Medicine, 1991)
Max-Plank Institute, Gottingen, Germany
- 12:00-13:30 Mitochondria as therapeutic targets in neurodegenerative diseases
Michael Duchen
University College London, UK
- 15:00-17:00 **YRC-1.-** Purinergic receptors as targets for neuroprotection in neurodegenerative diseases
Coordinator: Tobias Engel
Royal College of Surgeons in Ireland; Dublin, Ireland

Tuesday, July 26

- 10:00-11:30 Neuronal impairments in Alzheimer's disease and emerging therapeutic strategies
Prof. Arthur Konnerth. Technische Universität München. Germany
- 12:00-13:30 Discovery of potent brain penetrant BACE inhibitors for Alzheimer's disease
Fionna Martin. Eli Lilly and Company Limited, UK
- 15:00-17:00 **YRC-2.-**New ligands and drugs for brain disease
Coordinator: *Dr. Alfonso Fernández Mayoralas*
CSIC, Madrid, Spain

Wednesday, July 27

- 10:00-11:30 Democratising live-cell high-speed super-resolution microscopy
Ricardo Henriques
University College London, UK
- 12:00-13:30 On being a Scientist.
Erwin Neher (Nobel Prize of Physiology or Medicine, 1991)
Max-Planck Institute, Gottingen, Germany
- 15:00 17:00 **YRC-3.-Methods to explore synaptic transmission**
Coordinator: *Luis Gandía*
Universidad Autónoma de Madrid, Spain

Thursday, July 28

- 10:00-11:30 Targeting the transcription factor NRF2 for modification of Parkinson's disease progression
Antonio Cuadrado
Universidad Autónoma de Madrid /CSIC, Spain
- 12:00-13:30 Advances in the treatment of Parkinson's disease
Justo García de Yébenes
Hospital Ramón y Cajal, Madrid
- 15:00-17:00 **YRC-4.-New Therapeutic targets for neurodegenerative diseases**
Coordinator: Antonio G. García
Universidad Autónoma de Madrid

Friday, July 29

- 10:00-11:30 The exocytotic fusion pore as an indicator of synaptic alterations in neurodegenerative diseases
Antonio G. García
Universidad Autónoma de Madrid, Spain
- 11:30-13:00 Closing lecture: Genomic analysis of neurodegeneration
John Hardy
University College London
- 13:00 Closing ceremony: UIMP authorities and School directors

*Supporting institutions: Instituto-Fundación Teófilo Hernando de I+D del Medicamento (IFTH), Universidad Autónoma de Madrid, Spain
YRC, Young Researcher Communications*

FORMAT OF YOUNG RESEARCHER COMMUNICATIONS

Young Researcher Communications (YRCs; every afternoon from Monday to Thursday) are coordinated by scientists with expertise in the subject, which are also responsible for recruiting the six young researchers of each session, either PhD students or postdocs.

The YRC session consists in a 30-min general introduction on the topic, done by the coordinator and six 10-min communications followed by 5-min discussion presented by postdocs and PhD students; thus, each session will be developed in 2 hours sharp.

The session themes must be related with the course subject namely neuroscience, physiology, neurology, psychiatry and pharmacology of the CNS with a broad scope. It is convenient to put some emphasis in potential drug targets for specific diseases (this is a School of Pharmacology) although this is not a restrictive condition at all.

Registration and participation in the entire course is mandatory for the coordinating scientists and the young scientists participating in these YRCs. The Teófilo Hernando's Foundation and UIMP will help with expenses on an individual basis. It is, however, desirable that some funds from the working institution of the postdocs and PhD students may be provided to cover some of the travel and local expenses at Santander.

Information about the course can be found at:

http://www.uimp.es/agenda-link.html?id_actividad=622R&anyaca=2014-15

ABOUT THE INTERNATIONAL UNIVERSITY "MENÉNDEZ PELAYO" (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” 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, 13 editions of the THSP have been held. Over 100 internationally recognised scientist professors 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)