

**33205. Therapeutic Targets in Neuropsychopharmacology (coordinator: Prof Manuela Garcia Lopez [manuela.garcia@uam.es](mailto:manuela.garcia@uam.es))**

Classes will take place at **Seminar XIV**

Hour	Monday-19 February	Tuesday- 20- February	Wednesday-21 February	Thursday-22 February	Friday-23 February
	<p><b>9:30h</b>  <b>General instructions to the subject</b>  <i>Prof. Manuela G. Lopez</i>  <i>Coordinator</i></p>				
10-11	<p><b>Action potential</b>   <i>Prof. Jesús Hernández Guijo</i>  <i>Dept. Pharmacology-UAM</i></p>	<p><b>Structural organization of neurons and glia. Dynamic structure of neuronal membrane</b>   <i>Prof. Miguel Garzón</i>  <i>Dept. Anatomy-UAM</i></p>	<p><b>Calcium channels: modulation</b>   <i>Prof. Jesús Hernández-Guijo</i>  <i>Department Pharmacology-UAM</i></p>	<p><b>Endoplasmic reticulum and mitochondrial calcium: contribution to cellular death</b>   <i>Prof. María F. Cano-Abad</i>  <i>Dept. Pharmacology-IFTH-UAM</i></p>	<p><b>Oxidative stress and neuronal pathology</b>   <i>Prof. Antonio Cuadrado</i>  <i>Department Biochemistry-UAM</i></p>
11-12	<p><b>Sodium and Potassium Channels</b>   <i>Prof. Jesús Hernández-Guijo</i>  <i>Dept. Pharmacology-UAM</i></p>	<p><b>General concepts on the organization of the CNS</b>   <i>Prof. Miguel Garzón</i>  <i>Dept. Anatomy-UAM</i></p>	<p><b>Electrical activity in neuronal circuits</b>   <i>Prof. David Fernández Sevilla</i>  <i>Dept. Anatomy-UAM</i></p>	<p><b>Altered chromaffin cell function in disease</b>   <i>Prof. Antonio García</i>  <i>Dept. Pharmacology-IFTH-UAM</i></p>	<p><b>Glia and cerebral function</b>   <i>Prof. MD Martin de Saavedra</i>  <i>Universidad Complutense de Madrid</i></p>
12-13	<p><b>Calcium Channels</b>   <i>Prof. Luis Gandía</i>  <i>Dept. Pharmacology-IFTH-UAM</i></p>	<p><b>Main sensorial and motor systems</b>   <i>Prof. Miguel Garzón</i>  <i>Dept. Anatomy-UAM</i></p>	<p><b>Release of neurotransmitters by exocytosis</b>   <i>Prof. Almudena Albillos</i>  <i>Dept. Pharmacology-UAM</i></p>	<p><b>Nicotinic receptors</b>   <i>Prof. Luis Gandía</i>  <i>Dept. Pharmacology-IFTH-UAM</i></p>	<p><b>Neuroinflammation and its implication in neurodegeneration</b>   <i>Prof. Ana I. Rojo</i>  <i>Department Biochemistry-UAM</i></p>
13-14					

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Hour	Monday-26 February	Tuesday- 27 February	Wednesday- 28 February	Thursday-29 February	Friday-1 March
10-11	<p><b>Common mechanisms in neurodegenerative diseases</b></p> <p><i>Prof. Jordi Matias-Guiu Antem Hospital San Carlos</i></p>	<p><b>Optimising animal models of schizophrenia-related alterations for antipsychotic drug development</b></p> <p><i>Prof. Alejandro Higuera Matas UNED</i></p>	<p><b>–INTERACTIVE ACTIVITY</b> therapeutic targets for NPP (see order of presentation below)</p> <p>(Evaluation committee: Elena Tortosa and Manuela Garcia Lopez)</p>	<p><b>Depression: molecules, circuits and pharmacological treatment</b></p> <p><i>Prof. Pilar Lopez Garcia Dept. Psychiatry UAM</i></p>	<p><b>Multiple sclerosis: physiopathology and treatment</b></p> <p><i>Prof. Celia Oreja-Guevara Servicio Neurología Hospital San Carlos</i></p>
11-12	<p><b>How genomics and transcriptomics have contributed to our knowledge in Neurodegenerative diseases.</b></p> <p><i>Prof. Elisa Navarro UCM</i></p>	<p><b>Therapeutic strategies in Alzheimer's disease</b></p> <p><i>Prof. Manuela Gª López- Dept. Pharmacology-IFTH- UAM</i></p>	<p><b>–INTERACTIVE ACTIVITY-cont</b> therapeutic targets for NPP</p> <p>(Evaluation committee: Elena Tortosa and Manuela Garcia Lopez)</p>	<p><b>Schizophrenia: neurobiological basis and pharmacological treatment</b></p> <p><i>Prof. Pilar Lopez Garcia Dept. Psychiatry UAM</i></p>	<p><b>Biomarkers in neurodegenerative diseases</b></p> <p><i>Prof. Marta del Campo Universidad CEU</i></p>
12-13	<p><b>Autism Spectrum Disorders: molecular mechanisms and treatment</b></p> <p><i>Prof. MD Martin de Saavedra UCM</i></p>	<p><b>Drug development in Amyotrophic lateral Sclerosis</b></p> <p><i>Prof. Ana Martínez Centro de Investigaciones Bilógicas-CSIC</i></p>	<p><b>–INTERACTIVE ACTIVITY:</b> therapeutic targets for NPP (see order of presentation below)</p> <p>(Evaluation committee: Elena Tortosa and Manuela Garcia Lopez)</p>	<p><b>Perception of pain</b></p> <p><i>Prof. Javier de Andrés Unidad de Dolor-Hospital la Paz</i></p>	<p><b>–INTERACTIVE ACTIVITY - cont</b> therapeutic targets for NPP</p> <p>Coordinator: Manuela G. Lopez</p>
13-14					

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Hour	Monday-4 March	Tuesday- 5 March	Wednesday- 6 March	Thursday-7 March	Friday-8 March
10-11	<p><b>Group Presentation</b> Coordinators: Manuela Garcia Lopez/ Elena Tortosa/ Elsa Cortes</p> <p><b><u>SESSION I: Parkinson's disease: In vitro and in vivo models</u></b></p> <p><b>(4 STUDENTS)</b>- Approaches and experimental models to develop drugs for PD</p>	<p><b>Friedreich's ataxia: novel therapeutic targets</b></p> <p><b>Prof. Saul XXXXXX</b> <i>Universidad Complutense de Madrid</i></p>	<p><b>Parkinson's disease: new therapeutic strategies</b></p> <p><i>Prof. Isabel Lastres-Becker Department Biochemistry-UAM</i></p>	<p><b>Individual Presentations:</b> (Evaluation committee:TBD )</p> <p>Student Presentation 1 (15+10 min) Student Presentation 2 (15+10 min)</p>	<p><b>Individual Presentations:</b> (Evaluation committee:TBD )</p> <p>Student Presentation 7 (15+10 min) Student Presentation 8 (15+10 min)</p>
11-12	<p><b><u>SESSION II: Stroke Group Presentation</u></b> <b>(3 STUDENTS)</b>-: Approaches and experimental models to develop drugs for stroke</p>	<p><b>Stem cells to treat neurodegenerative diseases.</b></p> <p><i>Prof. José A Morales García Universidad Complutense de Madrid</i></p>	<p><b>Stroke: Pharmacological basis and therapeutic strategies</b></p> <p><i>Prof. Blanca Fuentes Servicio de Neurología. Hospital la Paz</i></p>	<p>Student Presentation 3 (15+10 min) Student Presentation 4 (15+10 min)</p>	<p>Student Presentation 9 (15+10 min) Student Presentation 10 (15+10 min)</p>
12-13	<p><b><u>SESSION III: Alzheimer's: In vitro and in vivo models</u></b></p> <p><b>Group Presentation</b> <b>(4 STUDENTS)</b>- Approaches and experimental models to develop drugs for AD</p>	<p><b>The retina as a model for neuroprotective research in Central Nervous System pathologies</b></p> <p><i>Profa. Elena Salobar García Martín Investigadora en el Instituto de Investigaciones Oftalmológicas Ramón Castroviejo. UCM</i></p>	<i>TBD</i>	<p>Student Presentation 5 (15+10 min) Student Presentation 6 (15+10 min)</p>	<p>Student Presentation 11 (15+10 min) Student Presentation 12 (15+10 min)</p>
13-14	<p><b><u>SESSION IV: ALS: In vitro and in vivo models</u></b></p> <p><b>Group Presentation</b> <b>(4 STUDENTS)</b>- Approaches and experimental models to develop drugs for ALS</p>				

**Interactive Sessions**

28th February	TARGET	Disease
	NRF2	Depression
	Tau protein	Alzheimer
	CGRP	Migraine
	CSF-1	Parkinson
	Neurotrophic factors	Huntington's disease
	Purinergic receptors	Amyotrophic Lateral Sclerosis
	NLRP3	Traumatic brain injury
	GLP1 receptor agonist	Alzheimer
	NMDA receptors	Depression
	NOX4	Brain ischemia-stroke
	TREM2	Alzheimer

**Group Presentations: Monday 4<sup>th</sup> March (10-14 h)**

<b>Date</b>	(10:00-10:30 h)		
<b>GROUP I</b>		<b>SESSION I</b>	<b>Models for Parkinson's</b>
<b>Date</b>	(10:30-11:00 h)		
<b>GROUP II</b>		<b>SESSION II</b>	<b>Models for Stroke</b>
<b>Date</b>	(11:30-12:00 h)		
<b>GROUP III</b>		<b>SESSION III</b>	<b>Models for Alzheimer's disease</b>
<b>Date</b>	(12:00-12:30 h)		
<b>GROUP IV</b>		<b>SESSION IV</b>	<b>Models for ALS</b>

**Individual Presentations: March 7 and 8<sup>th</sup>: Order of presentation TBD (this will be decided the first day of class)**

	Name	Surname	Date
1			
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