

PIANO NEWSLETTER

MSCA - ITN - PIANO | GA 956477

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Chronic pain is not all about the body, and it's not all about the brain – it's everything. Target everything. Take back your life.

Sean Mackey, MD, PhD

INTRODUCTION TO PIANO | MSCA-ITN PROJECT

NANOPARTICLE-BASED IMAGING AND THERAPY OF CHRONIC PAIN IN THE DORSAL ROOT GANGLIA

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THE AIM

The PIANO Project aims to develop tools to identify and visualise mechanisms of nociception in the dorsal root ganglia, outside the central nervous system.

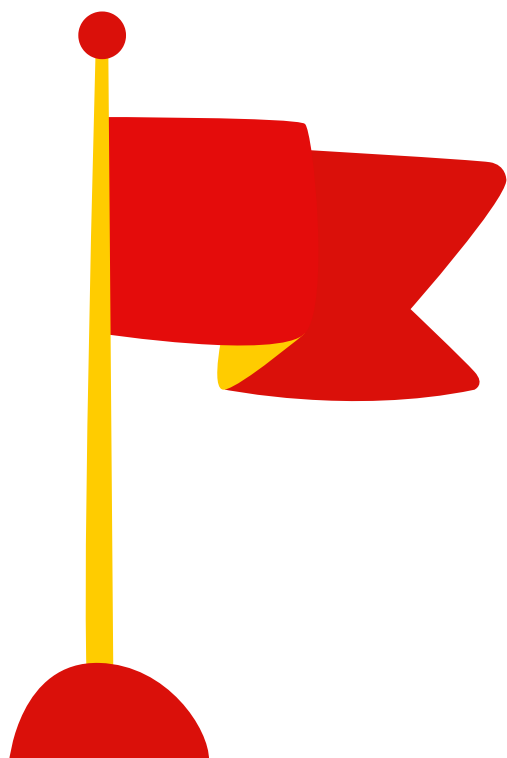
THE OBJECTIVES

Complete 15 ESR research projects

Provide local and network-wide training through intra- and intersectoral secondments for a new generation of researchers.

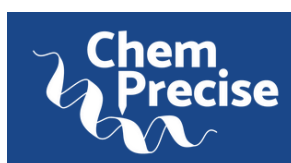
Adopt an interdisciplinary and intersectoral approach thanks to member of the consortium and the associated partners.

Create and combine an efficient network of nanotechnologists and pain researchers from academia and industry, working closely together towards the success of PIANO



PIANO BENEFICIARIES

Non Academic Institutions



Academic Institutions



LEIDEN UNIVERSITY MEDICAL CENTER



Non Academic Institutions



Academic Institutions



.... PIANO PARTNERS



THE ESR INDIVIDUAL PROJECTS

- ESR1: The preparation, characterisation and testing of different biomaterials.
- ESR2: Selection and production of the biomaterial format and then their functionalisation as nanoparticles.
- ESR3: Hydrogel patches for pain relief drug delivery.
- ESR4: Neurosurgery and tissue co-culture maintenance of DRG and associated cells. host
- ESR5: Neuroregeneration and Neurotransplantation.
- ESR6: GABAergic signalling in peripheral sensory ganglia and its role in pain processing
- ESR7: The gating mechanism of TRPV2: a quest towards effective modulators
- ESR8: The chemical modulation of in vivo macrophage functions at DRG site
- ESR9: Thermo TRP ion channels as a key molecular and functional landmark for neuropathic pain transduction in subsets of somatosensory neurons
- ESR10: The synthesis of inhibitors that selectively target sodium ion channel subtypes
- ESR11: Development of MRI accessories for imaging and the physiological monitoring of pain
- ESR12: Upconversion nanoparticles – a versatile solution to in vivo biological imaging of pain
- ESR13: The use of exosomal cargo to investigate sensory neuron to macrophage communication after nerve trauma
- ESR14: Biomaterial based modulation of macrophage polarisation to induce anti-nociceptive effects during neuropathic pain
- ESR15: Reversal of oxidative DNA damage by nanoparticle-based stimulation of DNA repair pathways to induce anti-nociceptive effects in models of neuropathic pain

MEET THE COORDINATOR | MARZIA MALCANGIO



Professor Marzia Malcangio

WELCOME TO PIANO

It is my pleasure to welcome you in the PIANO project.

PIANO is a EU research training programme funded by Horizon 2020 within the MSCA work program. The project is coordinated by King's College London (KCL) and is funded for 4 years. PIANO Network is offering 15 researchers a unique training platform across different research/training environments and cultures and involves 7 Universities and 4 SMEs located in 7 countries across Europe. Researchers will be offered with network-wide and local training activities, including secondments and scientific visits and specialised complementary skills focused on entrepreneurship and societal engagement.

BIOGRAPHY

I am Professor of Neuropharmacology at Wolfson Center of Age-Related Diseases (KCL). My research is devoted to the study of the positive and negative modulation of pain transmission, with an emphasis on chronic pain. My research group is currently focusing on neuro-immune interactions in settings of chronic pain, covering a range of specific pain subtypes from neuropathic pain to cancer-induced bone pain. To date, I have published over 100 papers on pain and edited a book on synaptic plasticity in pain. In doing so, I have explained fundamental mechanisms and identified new targets in chronic pain, including protease and chemokines pathways in microglia and macrophage-mediated mechanisms. I also lead the Wolfson CARD, which groups together researchers whose work seeks to advance our understanding of sensory systems including pain, deafness, and nervous system injury, repair and regeneration.

CONTACT INFORMATION

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LET'S GET STARTED WITH THE KICK OFF MEETING

WHEN

14th-15th
April 2021

WHERE

ONLINE
GoToMeeting

ABOUT THE KICK OFF MEETING

The Kick Off meeting took place on April 14-15, 2021 as online meeting on GoToMeeting platform.

Beneficiaries and Partners had the opportunity to meet virtually, discuss about science and neuropathic pain and to plan the next steps for the successful implementation of the project. All consortium is fully committed and engaged in offering an high-quality, inter-sectorial and inter-disciplinary training to the 15 researchers that will be recruited in the forthcoming months.



More information about the PIANO project and the Consortium:
www.piano-diagnostic.eu

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