# 【校級神經醫學研究中心 109 年 9 月份月會】

會議紀錄

時　　間：109年9月23日(星期三) 12:10-13:30

地　　點：現場會議-醫綜後棟15樓第二會議室

同步視訊會議-Google Meet

主　　席：蔣永孝 主任

主 持 人：白台瑞 副院長

## TMU Neuroscience Research Center Monthly Meeting Record for September, 2020

**Chair:** Director Y. C. Chiang

Recorded by: Professor J. Y. Wang, Secretary C. N. Huang

**Host:** Vice Dean Thierry Burnouf

**Time:** 2020/9/23 (Wednesday) 12:10-13:30

**Place:** 2nd Conference room at 15th Floor, United Medical Building (Back Building), Taipei Medical University (and net meeting via Google Meet held simultaneously).

Meeting Agenda (議程) :

1. Opening by Director Chiang
2. Forum hosted by Vice Dean Thierry Burnouf

## 1. Opening

Director Chiang introduced Vice Dean Thierry Burnouf, the host of today's meeting. This is the 2nd time NRC hold the monthly meeting in the format of forum with the net meeting in the same time. The topic for the forum today is platelet secretome biotherapy for neurological disorders.

蔣主任首先介紹今天的主持人-白台瑞副院長。本次是我們第二次以論壇形式進行月會，也同時舉辦視訊會議供不能到場的成員參加。今天的主題是針對神經疾病的血小板分泌蛋白質組生物療法。


The in-person meeting and net meeting via Google Meet held simultaneously (9/23).

## 2. Forum

### 1) Introduction

Prof. Thierry first expressed his thanks for setting up the "NRC on-line forum" before he started today's

topic. NRC set up the online forum which was initiated by Dr. Niall Duncan after the August monthly meeting. Thierry shared his experience that he requested to get the cell line (SH-SY5Y neuroblastoma cells) as his research material. Soon he got help from other members through the NRC on-line forum. He also asked for cooperation in the online forum and now has 2 members contacted him and they are already working together now. He found NRC on-line forum is very useful and beneficial to him (he indeed saved money and time).

Prof. Thierry then introduced the research interest in his laboratory and the studies of his four Ph D. students. Firstly, he introduced the platelet. As everybody knows platelet-rich plasma (PRP) is a very complex combination of plasma proteins and platelet proteins and is usually an application for Alzheimer's disease, dry eyes syndrome. But not all these applications are fully proven useful to tissue. Platelet lysate is obtained from the human body, non-toxic, and good for tissue regenerate and repair. Prof. Thierry's lab is developing a new product for the brain and has cooperation with David Blum from Inserm and David Devos from University Lille in France.

白副院長首先感謝 NRC 成立線上論壇(由 Niall Duncan 博士在八月月會後創立)，因為論壇他得以在短時間內獲得其他成員的幫助取得缺乏的實驗材料，他也利用論壇找到可以一起研究的合作對象。白副院長認為這個論壇十分有用，幫他節省了金錢與時間。

接著白副院長介紹血小板，目前較為大眾所知的為 PRP 增生療法，可用於阿茲海默症及乾眼症等疾病，但目前並不是每種疾病的治療均被證實有效果。目前他們實驗室正與法國里爾大學的 David Devos 博士及 Inserm 的 David Blum 博士合作，開發針對腦部神經疾病的治療方法。

The forum host by Vice Dean Thierry Burnouf (9/23).

**2) The studies of Ph D. students**

The following 4 students presented the subject of their research.

a) **Biotherapy of traumatic brain injury with tailor-made human platelet lysate** presented by Ouada Nebie.

The aim of this work is to examine the beneficial effect of platelet lysate as new therapeutic approach for the treatment of traumatic brain injury. To achieve this goal, we used in vitro and in vivo models of TBI to verify the potential of the platelet lysate.

b) **Extracellular vesicles in platelet lysates: characterization and assessment of their**

**neuroprotective and neuro-regenerative therapeutic potential in Parkinson's disease and TBI models** presented by Liling Delila.

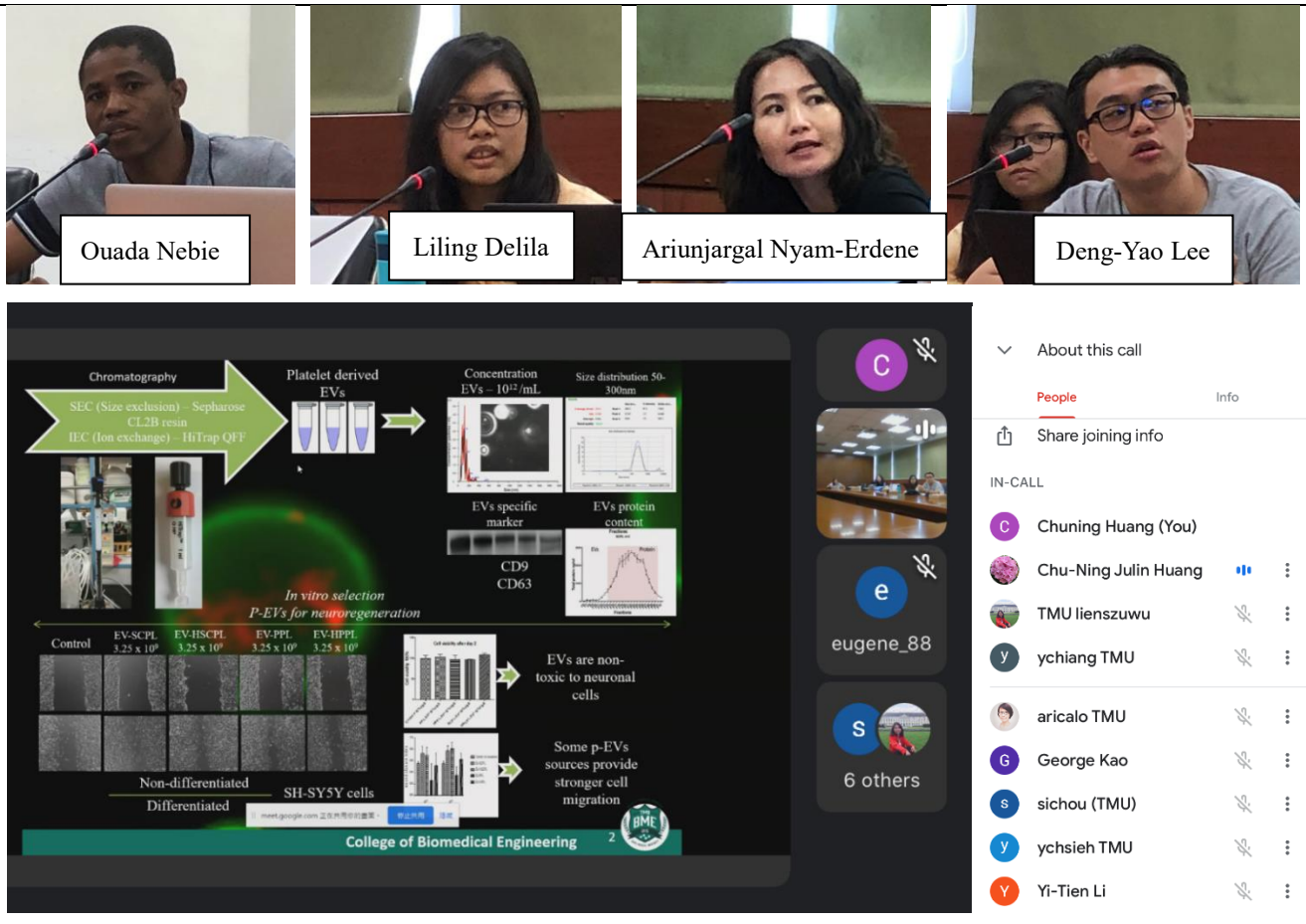
Previous experimental studies conducted in our laboratories have shown the neuroprotective effect exerted by purified human platelet lysates (HPL), engineered for brain administration, in in vitro and in vivo models of Parkinson's disease (PD), amyotrophic lateral sclerosis, and traumatic brain injury (TBI). Our preliminary studies are evidencing that HPLs contain an abundant number of EVs. EVs are known to play an important role in cell-cell communication and as a cargo of functional biomolecules, including platelet-derived neurotrophins and mi-RNA. Therefore, this finding raises intriguing questions on the potential contribution of platelet EVs (PEVs) to the neuro-protective and neuro-restorative activity of HPL.

c) **Development of isolation procedures of platelet EVs: characterization and assessment for future use in neuroregenerative medicine** presented by Ariunjargal Nyam-Erdene.

The goal of research work is to develop isolation technique of EVs from different type of prepared human platelet lysate using size exclusion chromatography and anion exchange chromatography. Once isolated EVs could be characterise and their functional activity define in *in vitro* models of TBI.

d) **Platelet derived-extracellular vesicles (PEV) as drug delivery system of doxorubicin as model for the treatment of glioblastoma** presented by Deng-Yao Lee.

To engineer optimal bioprocessing methods for generating and loading p-EVs with anti-cancer drug that could be used as a Target drug delivery (TDDS) platform for glioblastoma (GBM) therapy.




The presentation of the Ph.D. students (9/23).

**3) Discussion**

Prof. Lane, Prof. Magioncalda, Prof. Tseng, and Prof. Wang all discussed with Prof. Thierry and his students about the research.


Discussion between the members and Prof Thierry (9/23).

會議結束時間為 13:30。