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Newsletter

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Taiwanese Society of Biological Psychiatry and Neuropsychopharmacology
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理事長的話

首先，衷心祝賀前理事長陳柏熹教授願意承擔推動臺灣心理健康使命的重任，出任衛生福利部心理健康司司長，期許在他的帶領下能促進台灣全國人民的心理健康福祉。

臺灣生物精神醫學暨神經精神藥理學學會自2002年由創會理事長張文和教授創立以來，在歷任理事長的領導下不斷茁壯成長，逐步提升台灣在此領域的國際地位。歷屆理事長，包括張文和教授、林克明教授、蘇東平教授、劉嘉逸教授、林式穀教授、楊延光教授、白雅美教授以及陳柏熹教授，均為學會的發展付出卓越貢獻。我深感榮幸，能接棒領導學會邁向新階段。

在全球快速變動的社會環境中，心理健康議題逐漸受到廣泛重視。身心健康不僅攸關個人福祉，更牽動整體社會的穩定與進步。身為臺灣生物精神醫學暨神經精神藥理學學會的一員，我們肩負著推動學術研究、促進臨床發展、回應社會需求的使命。

近年來，精神藥理學與生物精神醫學領域皆取得顯著進展。新一代抗憂鬱劑、抗精神病藥物、失智症藥物、與失眠治療藥物的研發，以及神經調控技術的躍進，如經顱磁刺激（TMS）及其他腦功能調節方式，大幅拓展了精神疾病的治療選擇與精準性。此外，基因、神經影像與分子生物學等領域的突破性研究，深化了我們對精神疾病病理機制的認識，並促進個體化治療策略之發展，為精神醫療領域開啟更多前瞻性可能。

（AsCNP）之正式會員，持續參與國際交流，確保台灣研究成果與國際標準接軌。每年與日本神經精神藥理學會（JSNP）進行雙向年輕學者互訪，促進跨國學術交流。國內方面，學會身為台灣神經科學聯盟（TSfN）創始會員之一，積極投入多場跨領域國際神經科學研討會。未來，我們將善用這些平台，持續展現會員在精神藥理學與生物精神醫學領域的研究成果，加強與國內外學者的交流合作，進一步提升學會的國際能見度與學術影響力。

本會長期關注國人心理健康需求，已發表多項本土精神疾病治療專家共識，涵蓋思覺失調症、憂鬱症及雙極症領域，並編撰腦神經刺激治療專業手冊。此外，為培育新世代學術人才，設立「創立理事長張文和研究論文獎」、「Dr. Paul Janssen研究論文獎」、「TSBPN-JSNP年輕學者學術交流獎」、及「國際學術會議參與獎助」等獎項，積極鼓勵年輕學者投入研究，為台灣的生物精神醫學與精神藥理學領域注入更多創新與力。

展望未來，我們將秉持學會的創立初衷與使命，積極推動本土精神醫學研究，深化臨床應用與基礎科學之融合。透過國際交流與學術合作，拓展台灣在全球精神醫學領域的影響力。我們相信，只要凝聚會員的智慧與力量，必定能引領學會邁向更寬廣、更深遠的學術里程。

謹此，再次感謝各位會員的熱忱與付出，讓我們攜手共創精神健康新願景。

臺灣生物精神醫學暨神經精神藥理學學會
盧孟良理事長

114年度張文和理事長研究論文獎

Thalamocortical functional connectivity and rapid antidepressant and antisuicidal effects of low-dose ketamine infusion among patients with treatment-resistant depression

杜培基

Molecular Psychiatry. 2025 Jan;30(1):61-68

論文摘要:

Previous studies have shown an association between the thalamocortical dysconnectivity and treatment-resistant depression (TRD). Whether a single subanesthetic dose of ketamine may change thalamocortical connectivity among patients with TRD is unclear. Whether these changes in thalamocortical connectivity is associated with the antidepressant and antisuicidal effects of ketamine treatment is also unclear. Two resting-state functional MRIs were collected in two clinical trials of 48 patients with TRD (clinical trial 1; 32 receiving ketamine, 16 receiving a normal saline placebo) and 48 patients with TRD and strong suicidal ideation (clinical trial 2; 24 receiving ketamine, 24 receiving midazolam), respectively. All participants underwent rs-fMRI before and 3 days after infusion. Seed-based functional connectivity (FC) was analyzed in the left/right thalamus. FCs between the bilateral thalamus and right middle frontal cortex (BA46) and between the left thalamus and left anterior paracingulate gyrus (BA8) increased among patients in the ketamine group in clinical trials 1 and 2, respectively. FCs between the right thalamus and bilateral frontal pole (BA9) and between the right thalamus and left rostral paracingulate gyrus (BA10) decreased among patients in the ketamine group in clinical trials 1 and 2, respectively. However, the associations between those FC changes and clinical symptom changes did not survive statistical significance after multiple comparison corrections. Whether ketamine-related changes in thalamocortical connectivity may be associated with ketamine's antidepressant and antisuicidal effects would need further investigation.

得獎感言：

Ketamine是目前治療難治性憂鬱症的重要藥物，能在短時間內迅速緩解憂鬱症狀與自殺意念，但其背後的神經網路機制仍未完全明朗。本研究結合兩項臨床試驗與靜息態功能性磁振造影，探討治療前後大腦功能連結的變化。結果顯示，氯胺酮能顯著增強丘腦與前額葉之間的功能連結，為理解其作用機制及臨床潛力提供了關鍵線索。

在此要誠摯感謝台北榮總研究團隊的合作與支持。特別感謝蘇東平教授與陳牧宏教授執行這兩個重要的臨床實驗，白雅美與李正達教授在臨床上的協助，以及助理婉真在資料分析上的用心付出。他們嚴謹的研究態度與深刻的臨床洞察，成為我重要的啟發來源。同時也要感謝精神醫學部全體團隊在研究設計、受試者招募及影像處理上的努力，讓這項臨床研究能順利完成。

114年度Dr. Paul Janssen研究論文獎

Mortality and Lithium-Protective Effects after First-Episode Mania Diagnosis in Bipolar Disorder: A Nationwide Retrospective Cohort Study in Taiwan

許智維

Psychother Psychosom.2024;93(1):36-45

論文摘要：

本研究以全國性健保資料建立雙相情感障礙患者首次躁期（FEM）診斷後之追蹤世代，評估死亡風險並檢驗臨床指引（CANMAT and ISBD 2018 guidelines）建議之六種藥物與死亡之關聯。納入2007－2018年資料，共54,092位FEM個案與270,460位年齡、性別配對對照，以Cox模型估計風險。結果顯示：FEM個案之全因死亡為對照的2.38倍，自殺死亡為10.8倍。藥物方面，lithium與較低全因死亡相關（校正後風險比約0.62）；divalproex與aripiprazole呈邊際或輕度保護；quetiapine、risperidone、paliperidone未見一致降低，且無藥物顯著降低自殺死亡。本研究發現雙相情感障礙患者首次躁期後的全因與自殺死亡風險顯著升高；臨床與政策應強化早期辨識與隨訪，並將lithium之可能保護效益納入治療決策。

得獎感言：

謹向臺灣生物精神醫學暨神經精神藥理學學會致謝，榮獲「Dr. Paul Janssen研究論文獎」是對本人與團隊長期耕耘的肯定。本文從全國資料庫出發，回應臨床最關切的「如何降低死亡風險」之提問；在與臨床、公共衛生與國際合作夥伴的密切討論中，我們一步步釐清分析細節，讓證據更貼近病人與家屬的需要。

特別感謝國家科學及技術委員會（國科會）計畫支持，讓我有經費得以與國外學者共同合作、就模型設定與敏感度分析等關鍵處反覆切磋；也感謝指導與共同作者。此獎不只是終點，更是責任—未來我將持續推動以患者為中心的實證研究，促進早期介入與安全用藥，期能真正減少雙相情感障礙患者的各種疾病與死亡風險。

114年度Dr. Paul Janssen研究論文獎

Altered Functional Connectivity of Prefrontal Cortex-Related Circuitry and Trait Impulsivity in Patients With Bipolar Disorder and History of Suicide Attempts

黃茂軒

Acta Psychiatrica Scandinavica, May2025.Volume151, Issue5.Pages634-643

論文摘要：

Background: The neurobiological basis of impulsivity and its role in suicide attempt (SA) in BD remains underexplored. This study aimed to examine the functional connectivity (FC) within the prefrontal cortex (PFC) in BD patients with and without a history of SA, focusing on the role of trait impulsivity.

Methods: Seventy-two euthymic BD patients (34 with a history of SA, BDSA; and 38 without, BDNS) and 55 age- and sex-matched healthy controls underwent resting-state functional MRI. FC analyses were conducted on four PFC regions: superior frontal gyrus (SFG), middle frontal gyrus (MFG), inferior frontal gyrus (IFG), and orbitofrontal cortex (OFC). Trait impulsivity was assessed using the Barratt Impulsiveness Scale (BIS-11), and its association with FC was analyzed using a general linear model, adjusting for demographic and clinical variables.

Results: BDSA had higher trait impulsivity than BDNS and the controls. BDSA exhibited reduced FC between the PFC and sensorimotor (postcentral and precentral gyri) and thalamic regions compared to BDNS. These reductions in FC of the fronto-thalamic and fronto-sensorimotor circuits were significantly associated with higher trait impulsivity scores.

Conclusion: The findings highlight specific PFC-based FC alterations associated with suicide attempts and trait impulsivity in BD, offering potential neurobiological markers for suicide risk in this population.

Keywords: impulsivity; prefrontal cortex; sensorimotor; suicide; thalamocortical.

得獎感言：

非常榮幸能獲得保羅陽森研究論文獎。此篇論文是在蘇東平教授指導的系列論文之一。雙極性疾患在精神科疾患中有極高的自殺風險，顯示該群體中自殺防範的迫切需求。雙極性疾患患者即便在情緒平穩狀態下仍有較高的衝動特質，且各個面向的衝動都曾被認為在自殺意念及嘗試自殺中扮演重要角色。但過往研究同時納入不同診斷的受試者、不同情緒狀態、對自殺的定義不夠明確，導致研究結果不完全一致。我們的研究試圖用腦影像的方式找尋該群體中自殺的生物標記，以及這些標記是否與衝動特質有關。本研究獲得科技部、台北榮總及振興醫院的經費支持。也要感謝所有給予指導的師長和願意參與研究的受試者。

114年度Dr. Paul Janssen研究論文

Risk Factors for Poor COVID-19 Outcomes in Patients with Psychiatric Disorders

鄭婉汝

Brain Behavior and Immunity,114(2023)255-261

論文摘要：

Background: Coronavirus disease 2019 (COVID-19) has been shown to disproportionately affect individuals with pre-existing psychiatric disorders. However, the underlying reasons for this increased risk remain unclear. This study aimed to investigate potential factors contributing to poor outcomes among COVID-19 patients with psychiatric disorders, including delayed diagnosis, vaccination status, immune response, and psychotropic medication use.

Methods: We conducted a retrospective cohort study of 15,783 adult patients diagnosed with COVID-19 by PCR testing between January and September 2022 at a single medical center. Psychiatric diagnoses were identified using ICD-9 codes from the preceding three years. The primary outcome was in-hospital mortality. Secondary outcomes included severe illness requiring intensive care or mechanical ventilation and hospitalization within 45 days after a positive COVID-19 test. We compared clinical outcomes, viral load, vaccination status, psychotropic medication use within 90 days prior to infection, antiviral therapy, and inflammatory markers between patients with and without psychiatric disorders. A Cox proportional hazards model was applied to examine the associations of psychiatric diagnoses, vaccination status, and psychotropic medication use with poor outcomes.

Results: Patients with psychiatric disorders had higher rates of severe illness (10.4% vs. 7.1%) and hospitalization (16.4% vs. 11.3%), and a shorter median time to in-hospital mortality (6 vs. 12.5 days) compared with non-psychiatric patients. Psychiatric patients demonstrated higher vaccination rates but lower inflammatory marker levels. Antipsychotic use was associated with increased in-hospital mortality (hazard ratio [HR] = 4.79, 95% confidence interval [CI] = 1.23–18.7). Among psychiatric patients, lack of vaccination was associated with hospitalization (HR = 1.81, 95% CI = 1.29–2.54) and severe illness (HR = 3.23, 95% CI = 1.95–5.34). Sedative use was associated with all poor outcomes in the general patient cohort. Conclusion: Given the narrow time window between a positive COVID-19 test and adverse outcomes, healthcare providers should closely monitor patients with pre-existing psychiatric disorders during the early phase of infection. Additionally, caution is warranted in prescribing psychotropic medications, particularly antipsychotics, in this vulnerable population.

得獎感言：

非常榮幸能獲得臺灣生物精神醫學會頒發此獎項，從事研究工作一路以來受到黃名琪院長啟發，在中國附醫服務期間藍先元主任與蘇冠賓主任的支持，如今在國衛院從事全職研究工作，在職涯中有許多貴人相助非常幸運。這個研究顯示精神病人的疫苗接種及抗病毒藥可近性高，CPR陽性時CT值較高，代表醫療可近性並非我國精神病人比非精神病人更易死亡及重症的原因。但由於自 COVID-19 PCR 檢測陽性至不良結果之間的時間窗口極為狹窄，臨床人員應在感染初期即密切監測具有精神疾病的患者。此研究有另一重要發現，是鎮靜安眠藥在非精神病人顯著增加死亡重症的風險。近期我國鎮靜安眠藥的處方管理受到大眾重視，雖然已有許多研究證實非藥物治療在失眠與情緒疾患的重要角色，實務上尚需政策支持。

114年度WFSBP Berlin Travel Award

Predicting rTMS Treatment Response in Depression Using Insula-Based Functional Connectivity and Machine Learning

吳柏毅

論文摘要：

Background: Repetitive transcranial magnetic stimulation (rTMS) is an effective treatment for depression, though individual responses vary. The insular cortex, a hub for interoception and cognitive control, has been implicated in treatment outcomes, yet predictive models using insula-based functional connectivity (FC) remain limited. This study aimed to establish machine learning models using insula-seeded FC to predict rTMS response.

Method: We recruited 20 patients with major depressive or bipolar depressive episodes who underwent 12 sessions of rTMS targeting the left dorsolateral prefrontal cortex. Pre-treatment resting-state fMRI was used to calculate 696 FC features between six insular subregions and 116 brain areas. Treatment remission at week 12 served as the outcome. Four tree-based algorithms (Random Forest, Extra Trees, Gradient Boosting, XGBoost) were trained with recursive feature elimination to select the top 10 predictors. Grid search with stratified 5-fold cross-validation optimized hyperparameters, with ROC AUC as the primary performance metric.

Results: Extra Trees achieved the most stable predictive performance, with AUCs generally above 0.75, outperforming Random Forest and XGBoost, while Gradient Boosting showed instability. Feature frequency analysis showed left middle insula connectivity—particularly with the precuneus, cerebellum, parahippocampal gyrus, and fusiform gyrus—as the most consistent predictors.

Conclusions: These findings suggest that insula-based FC, especially left middle insula connectivity, can serve as a possible biomarker for predicting rTMS treatment outcomes in depression. Larger samples and external validation are required to confirm clinical applicability.

得獎感言：

很榮幸能夠榮獲WFSBP Berlin Travel Award，也感謝學會評審委員願意給我這樣的機會。隨著人工智慧機器學習的演變，精準醫療也逐漸成為現今醫學發展的趨勢。敝人從在學期間最早參與的分析，以人工智慧平台進行躁鬱症代謝因子研究，一直到為分析功能性連結而寫的機器學習架構，不斷在學習探索每位個案的不同，以期以更加個人化的角度切入相同的疾病診斷。感謝陳柏熹教授一直以來的指導與給予我研究彈性，讓我能勇於踏出跨領域學習的歷程，也感謝一路相遇的實驗室學長姐學弟妹的幫助。此研究尚有待進步與持續發展的地方，也期許自己持續精進學習，努力貢獻所學。

114年度WFSBP Berlin Travel Award

Agomelatine Alleviates Chronic Social Defeat Stress-Induced Synaptic Impairments via STAT3 Signaling

李旂緯

論文摘要：

Objective: Major depressive disorder (MDD) is a significant public health issue that imposes a socio-economic burden and negatively impacts personal lives. Synaptic plasticity impairments, such as long-term potentiation (LTP) deficits in the prefrontal cortex (PFC), have been associated with depression. Agomelatine, a melatonin receptor agonist and 5-HT_2C antagonist, has shown rapid antidepressant effects. This study aimed to investigate whether agomelatine ameliorates synaptic plasticity impairment in a chronic social defeat stress (CSDS) mouse model through the STAT3 signaling pathway.

Methods: A CSDS mouse model was used to induce depression-like behaviors. Agomelatine was administered for one week, and its effects on depressive-like behaviors, LTP, and spine density in the PFC were assessed. To explore the underlying mechanism, AG490, a STAT3 inhibitor, was applied to determine whether STAT3 phosphorylation mediates the synaptic plasticity improvements induced by agomelatine.

Results: After one week of agomelatine treatment, depressive-like behaviors were significantly reversed. Agomelatine also restored LTP and spine density and synaptic related protein expression in the PFC. Furthermore, the therapeutic effects of agomelatine on synaptic plasticity and synaptic related protein expression were blocked by AG490, suggesting that STAT3 phosphorylation plays a crucial role in its mechanism of action.

Conclusion: These findings indicate that agomelatine improves synaptic plasticity impairments in depression via the STAT3 phosphorylation. STAT3-regulated downstream molecules may serve as potential therapeutic targets for the rapid action of antidepressants.

得獎感言：

能獲得這項殊榮，我感到萬分榮幸。這不僅是對研究成果的肯定，更是對所有致力於精神醫學研究學者們的鼓勵。

本次獲獎的研究，是應用動物基礎模型，探索憂鬱疾病治療的機轉。憂鬱症與精神疾患不僅是個人的挑戰，更是公共衛生的重要議題。我們深知，基礎研究的價值，在於為臨床應用奠定基石。期盼這些看似微小的動物實驗成果，未來能轉化為治療的新希望，為患者帶來實質的幫助。

在此，特別感謝我過去的指導教授林惠菁教授與李正達教授在研究上的鼎力支持。同時，我也想向在臨床醫師們致上敬意，為病患點亮希望。我們的研究，正是希望能成為他們堅實的後盾，共同應對這場艱難的挑戰。

我會秉持初衷，繼續在研究道路上努力耕耘。

謝謝大家。

114年度日本學術交流獎

Evaluation of alpha neurofeedback training to enhance sleep in remitted depression and anxiety sufferers with persistent insomnia

呂宗樺

論文摘要：

This study evaluates whether neurofeedback training (NFT) to boost alpha wave activity in the central brain may effectively mitigate persistent insomnia in patients with remitted depression and anxiety. Thirty-two participants in clinical remission from depression or anxiety were enrolled and evaluated for insomnia severity. Individuals were randomly assigned in a single-blinded manner to either NFT or the sham treatment. The effectiveness of the intervention was measured using recognized scales for depression, anxiety and sleep quality. While subjective sleep quality, measured by the PSQI, showed significant improvements in the active group compared to the sham group at post training, 1-month, 3-month, and 6-month follow-up, objective measures of sleep quality largely remained within the normal range, with few significant changes observed. Specifically, the active group exhibited notable improvements in alpha amplitude and duration during NFT sessions, which were not seen in the sham group. This highlights the potential of NFT as a complementary approach for improving sleep perception in this population, but further research is needed to confirm its effects on actual sleep architecture and long-term outcomes.

Keywords: Alpha wave activity; Anxiety; Depression; Insomnia; Neurofeedback training (NFT).

得獎感言：

非常感謝臺灣生物精神醫學暨神經精神藥理學學會委員們的肯定，讓我獲得這屆的日本學術交流獎。本研究是基於腦科學基礎下的理論，開發不同形式的神經回饋訓練，讓情緒障礙下的失眠症患者，隨機單盲下接受增加中央腦區的alpha波的訓練。失眠症的非藥物治療一直都是重要議題，隨著科技的發展，資訊工程技術結合腦科學，在此項治療的研發中更顯重要，因此，謝謝成功大學資訊工程學系的梁勝富教授整合腦電波訊號技術，謝謝成功大學心理系蕭富仁教授教導神經回饋訓練，以及非常感謝成功大學精神醫學系陳柏熹教授在此過程中帶我認識這幾位專家們以及指導論文撰寫，由國科會及成大醫院研究經費的支持，順利完成這項研究計劃以及發表成果於Psychiatry Research。

114年度日本學術交流獎

Exploring the human gut microbiota targets in relation to the use of contemporary antidepressants

林詩凱

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論文摘要：

Background: Antidepressants, specifically selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs), are commonly prescribed for depression treatment. Animal studies have shown that antidepressants can influence gut microbiota composition and specific bacterial taxa. We aimed to investigate the association between antidepressant use and human gut microbiota composition and functional pathway.

Methods: We collected information on antidepressant use, demographic, food patterns, and clinical characteristics through questionnaires and medical records. The gut microbiota profiles of 271 depressive patients were carried out through 16S rRNA gene sequencing. Patients were categorized based on different types of antidepressant use groups for gut microbiota comparisons. MaAsLin2 was performed to evaluate microbiota composition across groups. PICRUSt2 was used to predict microbiota functional pathways.

Results: Patients taking SSRIs or SNRIs had a lower microbiota diversity. We found seven taxa abundances (Turicibacter, Barnesiella, Lachnospiraceae_ND3007_group, Romboutia, Akkermansia, Dialister, Romboutia and Fusicatenibacter) differed in patients with various types of antidepressants compared with those without antidepressant treatments ($p<0.05$). Turicibacter inversely correlated with depression severity in SSRIs or SNRI users ($r = -0.43$, $p<0.05$). Top identified pathways were related to compound fermentation and biosynthesis in microbiota function.

Conclusion: Antidepressant usage, especially SSRIs and SNRIs, associates with changes in gut microbiota composition and specific taxa. Given our study's preliminary cross-sectional nature, further research is warranted to comprehend the relationship between antidepressant use, treatment response, and gut microbiota, aiming to enhance therapeutic interventions in the future.

Keywords: Antidepressants, gut microbiome, depression, Selective serotonin reuptake inhibitors, Serotonin-norepinephrine reuptake inhibitors

得獎感言：

非常榮幸能獲得 2025 TSBPN－JSNP 年輕學者學術交流獎。這篇研究受啟發於許多Depression患者接受藥物治療過程中反應不一的難關。治療效果不佳與效果持續狀況不久一直以來都是相當重要的精神公共衛生議題，恰巧與郭柏秀老師在鑽研腸道菌相與情感性疾患兩者之間的相關，加上抗憂鬱藥的發展歷史，因此有了強烈的動機想初步探索與抗憂鬱藥服用有關的腸道微生物變化，藉此更進一步了解其在整個Depression病理及藥物治療中所扮演的角色。

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雜　誌

收件人：

啟

此刊物為醫療教育刊物，歡迎來函免費索取，並請傳閱。謝謝！

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