

鹿大「進取の精神」支援基金 令和元年度留学生受入推進事業  
研究留学生受入推進プロジェクト 報告書

令和2年3月16日

1. 申請者 (所属・職名・氏名)	医歯学総合研究科 統合分子生理学・教授・桑木共之
2. 受入留学生 (国・大学・学年・氏名)	(1) インドネシア・デイポネゴロ大学・5年 Galih Ricci Muchamad
	(2) インドネシア・デイポネゴロ大学・5年 Gabriella Diah Pradaningpuri
3. 留学生受入期間	令和元年10月 ～ 令和2年3月
4. プログラム研究分野	脳神経外科学、統合分子生理学
5. 本プログラムの目的と概要と成果 (申請者/日本語)	
<p>【目的】アジア地域の研究拠点と鹿児島大学との持続的な神経科学の共同研究体制作りのための人材育成を目的とする。</p> <p>【概要】将来、母国で神経科学の発展に貢献出来る優秀な人材を育成する。そのために、本プログラムによる短期留学後に再来日して学位(博士)の取得を目指すための長期留学を決心するような動機付けを与える。あるいは、留学生が帰国後に自国での博士取得を目指すような動機付けを与える。</p> <p>【成果】脳神経外科：研修全期間を通してカンファレンスや回診への参加とともに、当初の2ヶ月間は病棟担当医とともに行動する期間を設け、その後は自主的に手術や検査見学を行った。また、研究課題として、それぞれが症例研究を担当し、鹿児島脳神経外科学会での発表と論文作成を行った。さらに、脳神経外科関連の研究に関して触れる機会を設けた。また、リハビリテーション医学教室での抄読会やカンファレンス、並びに回診に参加する機会を得て、インドネシアでは発展していないリハビリテーション領域についての知識を深めることができた。本研修を通して、脳神経外科に関する知識と今後の学習意欲を大きく高めることができたと考える。統合分子生理学：5週間という短期ではあるが実験動物を用いた脳研究を行った。インドネシアでは基礎医学の学習は座学のみであり実験研究を体験する機会がない。両名は初めての実験研究で大いに刺激を受け、研究の重要性を認識すると共にその楽しさも実感した。両部門での研修を通じて研究ができる医師になる決意を固めたようであり、本プロジェクトの目的は達成された。</p>	
6. 鹿児島大学での研究活動と成果 (Student/English or Japanese)	
<p>Explain your activities and achievement for your research in Kadai.</p> <p><b>(1: Galih Ricci Muchamad)</b> During the exchange program, I joined in the 3 departments: Neurosurgery Department, Rehabilitation Department, and Physiology Department. <b>In the neurosurgery department</b>, I joined the round, operation room, shadowing neurosurgery resident to the patient, and see case presentation every Tuesday and Thursday morning conference. It was interesting experience because I can observed Japanese medical education system, neurosurgery department system, and rare case and operation method such as carotid endarterectomy, TSA-MCA anastomoses, Moya-moya, DBS and many more. I am also joining neurosurgery conference or seminar to keep updating on neurosurgical issues. I also write a case report with Dr. Ryosuke Hanaya and his colleagues about VNS application on sustained seizure cluster, it is very wonderful because Indonesia hasn't applied VNS yet. So, it will makes a motivation to me someday to learn much about epilepsy and neuromodulation. The writing process still progressing to be published in International Journal with impact factor. I would like to thanks Prof. Yoshimoto for letting me join this program and the opportunity. I also thanks sensei in Neurosurgery Department: Dr. Hanaya, Dr. Oyoshi, Dr. Fujio, Dr. Uchida, Dr. Hosoyama, Dr. Tanaka, Dr. Higa, Dr. Yonenaga, Dr. Yamahata, Dr. Hanada, Dr. Hiwatari, Dr. Iwamoto, Dr. Kuroki, Dr. Masuda, Dr. Matsuda, Dr. Kamil, Dr. Shanta and Dr. Madan for teaching me many things since I arrived in Japan. I would like to thanks to Nashida-san, Kawagoe-san, Terada-san, Tani-san, Takajo-san and Tanaka-san for helping during my education in Kagoshima Daigaku. <b>In rehabilitation department</b>, I joined journal reading and round. On journal reading, I learn a lot of rehabilitation score on patient and the update of rehabilitation methods on patient based on research. It makes me to learn about criticize something to know what does it means. On the round, I would like to thanks Dr. Shimotozono, Dr. Kawamura, and other doctors in rehabilitation depart</p>	

ment because introducing me about a lot of things, for example, Japan Coma Scale and score to value the muscle weakness in Japan.

**In the physiology department**, I am doing basic research experiment about the role of neurotransmitter TRPM2 or GABA in the torpor animal model (food deprivation). I would like to thank Dr. Kuwaki, Sakoda-san, Ueno-san for helping me during the research. I think it is very rare experience for me to do some kind experiment. I could learn immunohistochemistry method from this experiment. In this rest of time, I would try my best in physiology lab and if there is enough time I really enjoying physiology laboratory. **I also joined Japanese Language Class from Global Initiative Center** in Sakuragaoka Hall every Monday and Wednesday afternoon. In that Japanese learning, I could practice daily Japanese terms to my Japanese friends and sensei in Kagoshima University.

## **(2: Gabriella Diah Pradaningpuri)**

During my Exchange Program in Kagoshima University, I joined three departments which are **Neurosurgery, Rehabilitation, and Physiology Department**.

My program for **Neurosurgery Department** was held in two places; Kagoshima University Hospital and Kagoshima City Hospital. I started my study in Kagoshima University Hospital by doing some “shadowing” – basically following, watching, and learning – my mentor’s daily activity in ward, angiography room, operation room, or sometimes in emergency unit. My mentor was changed and rotated with Galih’s every two weeks for approximately two months. Other than that, I joined operation programs on Monday and Wednesday, morning conferences on Tuesday and Thursday, ward round on Thursday’s afternoon, and many more. I enjoyed the operation programs because I personally have never been to a neurosurgery operation before; seeing all the high technology, interesting and sometimes rare cases, and also having my senior doctors gladly explained about the patients. Morning conferences were difficult for me at first, but thanks to the senior doctors and Japanese clinical students who helped to explain them to me, I can understand most of them. I’m glad that I was allowed to practice my vascular suturing skill anytime in doctor’s office and I got the chance to experience the endovascular surgery simulation in Dr. Shunichi Tanaka’s class. I was also given a really good book by Prof. Koji Yoshimoto, The Essentials Biology, and what made it more interesting was because I can join discussion class about the book once every week together with other students and the Professor himself. My main target in this department was making a case report, presenting it at the end of my program, and hopefully can do a publication too. I had the chance to deepen my interest in vascular field with Dr. Shunichi Tanaka as my mentor. I got a case about iatrogenic occipital artery pseudoaneurysm which couldn’t be detected by CTA. For every Friday, I went to Kagoshima City Hospital to join morning conference and operation programs. Most of the cases there were vascular cases, other than some tumour removal cases. I joined **Rehabilitation Department** several months after I arrived in Kagoshima. In here I can come to paper reading meeting on Monday and doing ward round on Tuesday afternoon. During the ward round, I could study about some patients which were presented by the senior doctors, while learning some Kanji or Japanese word in Rehabilitation world with the help of Dr. Shimotozono, Dr. Kawamura, and others. I also observed the work of physical therapists and how doctors examined the patients. As for **Physiology Department**, I started at the beginning of January. At the first meeting in here, me and Galih were explained and offered three different proposals of basic research and we got to join which one we felt most interested in. I was interested mostly about the proposal Dr. Kashiwadani offered about linalool – a chemical in lavender – effect on anxiety in mice. I learned for the first time how to handle mice, perform brain perfusion, do immunohistochemistry, how to read sample using certain microscope, and analyse the C-Fos neuronal activity at the mice’s septal nuclei. Beside medical departments, I also joined **Japanese Language Class** by Global Initiative Center on Monday and Wednesday for 5 weeks. I learned basic lessons starting with how to read and write Hiragana and Katakana, how to make sentences, and learn some important vocabularies. This class have been really helpful for me to be able to understand conferences, communicate with senior doctors and friends, and do daily activities in Japanese society.