

This report should be submitted within 2 weeks after you return to Japan.

(Abroad) Domestic Internship report form (Student) 2019/04/26 (Year/Month/Day)

Name	Tussapon Boonyarattanasoonthorn
Laboratory	Laboratory Animal Science and Medicine
Year (Grade)	DC4
Internship institution	- Wisconsin National Primate Research Center (WNPRC), University of Wisconsin-Madison (UW-Madison) - University Laboratory Animal Resources (ULAR), The Ohio State University (OSU)
Internship period	Internship period: 03/11/2019 - 04/19/2019 (Departure Date from Sapporo: 03/09/2019, Arrival Date in Sapporo: 04/21/2019)
Purpose	- Learn about nonhuman primate medicine and surgery. - Externship in all facets of laboratory animal medicine and its various disciplines.

- The reason why you chose this institute

For WNPRC, UW–Madison, this center maintains various species of non-human primates and well known in research about medical primatology and primate behavior.

For OSU, ULAR, this is a huge and famous institution that has a well-established Laboratory Animal Residency Program.

As I intend to work on field of laboratory animal science and medicine, I decided to do externship in these institutions that benefit to my future career path.

- Result of the activity (about 800 words、 provide photos, tables and figures that clearly show the activities during the period)

Research with nonhuman primates often serves as a critical link between basic science and human clinical application. The WNPRC is dedicated to conducting humane research with nonhuman primates to advance knowledge in primate biology and address human and animal health concerns. At ULAR a variety of research activities include improving the health care for animal species used as pets, evaluating new drug therapies, and understanding the mechanisms of diseases that afflict humans and animals. Extensive effort is made to provide excellent care for animals used in research, to gain the maximum amount of

information from every animal used, and to minimize procedures that have potential for discomfort, distress, or pain. As I am interested in the non-human primate medicine and others laboratory animal medicine, I decided to do externship with these two institutes to learn the research, management, clinical medicine, diagnostic services, husbandry practices and experimental surgery. During the externship activities, I participated in a variety of the activities relevant to laboratory animal medicine as describe below.

March 11<sup>th</sup>, 2019, arrived in WNPRC and met with Prof. Saverio Capuano, who was my supervisor during the activity. We discussed and modified the schedule of the externship for fitting in to next 4 weeks of time.



Prof. Capuano (middle) and clinical veterinarians of the center

March 11<sup>th</sup> - 12<sup>th</sup>, 2019, participated in V WNPRC Lab Animal Medicine and Pathology seminar with International Mock-ACLAM Exam at UW School of Veterinary Medicine.

March 13<sup>th</sup>, 2019, assisted in nonhuman primate necropsy that had a chronic diarrhea problem by collecting digestive tract and the related organs. Attended lab meeting that was discuss and follow up about health problem of animals in the center.

March 14<sup>th</sup> - 15<sup>th</sup>, 2019, participated in biopsy for collecting colon and lymph node from nonhuman primate that was used in experiment at the center. Observed clinical veterinarian perform blood collection from nonhuman primate and did daily round cases.



During the seminar at the lecture hall, school of veterinary medicine

March 18<sup>th</sup> - 19<sup>th</sup>, 2019, prepared animals for surgery and observed oocyte retrieval in marmosets and macaques. Attended seminar about renal transplantation in nonhuman primate that was done by a research group collaborates with the center. March 20<sup>th</sup>, 2019, participated in health examination of pregnant macaques, infants and postpartum macaques by ultrasound machine. Observed a necropsy in macaque died from Simian immunodeficiency virus (SIV) model. March 21<sup>th</sup>, 2019, observed fetectomy in macaque that was infected by Zika virus. March 22<sup>th</sup>, 2019, participated in health examination of pregnant macaques and followed up cases.



Providing the Personal Protective Equipment (PPE) for staffs to wear before enter into the animal area.

March 25<sup>th</sup>, 2019, prepared animals for surgery, then observed oocyte retrieval and

caesarian section in macaques.

March 26<sup>th</sup> - 27<sup>th</sup>, 2019, observed femoral amputation in marmoset. Performed postpartum health check, did ears tattoo in infants and pre-assignment health examination in adult macaques. Attended pathology case report and joined lab meeting.

March 28<sup>th</sup>, 2019, went to Wisconsin Institutes for Medical Research (WIMR) to observe kidney biopsy in macaques and participated in stem cell therapy injection and blood collection in SIV study. Listened a presentation about nonhuman primate medicine from Dr. Coonen who is a clinical veterinarian working in WIMR.

March 29<sup>th</sup>, 2019, observed fetectomy and skin flap surgery in macaque.

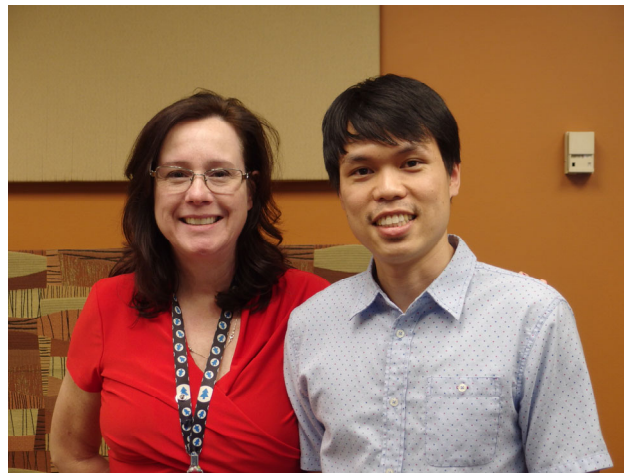


Dr. Jenny Coonen (right)

April 1<sup>st</sup> - 2<sup>nd</sup>, 2019, went to WIMR to observe kidney transplant and postoperative check after kidney transplant by ultrasound machine in macaques and did round cases with Dr. Coonen.

April 3<sup>rd</sup> - 4<sup>th</sup>, 2019, prepared animals for surgery and observed oocyte retrieval and tail amputation in macaques. Attended a case report presented about cause of sudden death in macaque during a pre-surgery preparation. Performed bone marrow collection in macaques used for stem cell study.

April 5<sup>th</sup>, 2019, participated in pre-assignment health examination in adult macaques by using ultrasound machine.



Prof. Judy Hickman-Davis (left)

April 8<sup>th</sup> - 9<sup>th</sup>, 2019, arrived in ULAR and met with Prof. Judy Hickman-Davis, who was my supervisor during the activity. We discussed and modified the schedule of the externship for fitting in to next 2 weeks of time. Participated in round case in the animal facility (Graves Hall and Pressey Hall) and learnt about e-Protocol application

April 10<sup>th</sup>, 2019, discussed with Prof. Hickman-davis about quality assurance in ULAR, then listened presentation about quality assurance from Dr. Dianne who is a supervisor of rodent import/export.

April 11<sup>th</sup>, 2019, attended a seminar series that talk about enrichment strategies for laboratory animals and laboratory animal behavior. Presented a journal review entitle “changes in plasma protein expression indicative of early diet- induced metabolism disease in male pigs (*Sus scrofa*)” to veterinarian residents and clinical veterinarians. Studied about quality assurance and sentinel system that were used in the animal facilities.

April 12<sup>th</sup>, 2019, observed and monitored a surgery in pigs. Participated in the Institutional Animal Care and Use Committee (IACUC) inspection.

April 15<sup>th</sup> - 16<sup>th</sup>, 2019, participated in dog surgery that study pharmacokinetic. Performed a quarantine test in mice and collected sample from animal facility. Observed mice shipment from the ULAR and did round cases in animal facilities.

April 17<sup>th</sup>, 2019, attended surgery rotation and meeting of animal facility team leader.





### IACUC inspection at Heffner Wetland Research and Education

April 18<sup>th</sup> - 19<sup>th</sup>, 2019, attended a seminar series that talk about per diem rates and billing in the laboratory animal setting, then discussed about protocol review. Attended IACUC meeting that held for animal protocol approval.

This activity given a different point of view about laboratory animal and motivated me to continue working in the related field of laboratory animal science and medicine. Finally, I am grateful to Prof. Saverio Capuano and Prof. Judy Hickman-davis, for the acceptance and kind support during the activity. Furthermore, I would like to thank leading program coordinator Prof. Motohiro Horiuchi and committee for approving and financial supporting. Also, I would like to thank leading staff for their kind help throughout this activity.

- What do you think the positive impact of the activity will have on your further career path?

Exposure to various facets of laboratory animal science and medicine from these two institutions could improve my knowledge and help set me on a future career path. The understanding and learning from these activities will be very much helpful to join a laboratory animal research institute in the future. Moreover, to contact new colleagues and environment could develop my career life and might enrich my experiences to deal with any workplace in future. Such type of comprehensive exposure could be a key step to set up and support myself to achieve my goals in the future to be an independent research personnel in the field of laboratory animal science and medicine.

- Advice for your junior fellows

Try to early contact host institute (at least 6 months) because you may not get acceptance and have to find others institutes.

Check a visa requirement for your visiting especially in the USA because each institute has different criteria and spare time for applying visa (at least 3 months). Carefully select institute that match with your interested and relate to your future career path.

Do not be afraid to discuss with professors about your research and plan of your future career path because they can give you many recommendation.

Approval of supervisor	Institution • Official title • Name
	Graduate School of Veterinary Medicine, Hokkaido University
	Professor Dr. Takashi AGUI 印

- ※1 Send the electronic file to the Leading School section, International Affairs Office, also submit the original print out with seal of supervisor to the Leading School section, International Affairs Office.
- ※2 Attach a copy certificate of the content of internship activity that is prepared by the counterpart at the internship institution (any form with a signature of the counterpart).
- ※3 The Steering Committee of the Leading Program will first confirm the content of this report and report will be forwarded to the Educational Affairs Committee for credits evaluation.

Submit to : Leading School section, International Affairs Office

Ext: 9545 e-mail: [leading@vetmed.hokudai.ac.jp](mailto:leading@vetmed.hokudai.ac.jp)