

**Research Activity Report**  
**Supported by “Leading Graduate Program in Primatology and Wildlife Science”**  
 (Please be sure to submit this report after the trip that supported by PWS.)

2019. 07, 19	
<b>Affiliation/Position</b>	Primate Research Institute/D1
<b>Name</b>	Vanessa Nadine Gris

<b>1. Country/location of visit</b>
JMC, Inuyama, Japan
<b>2. Research project</b>
ICEE/Yakushima Post congress tour
<b>3. Date (departing from/returning to Japan)</b>
2019. 06. 22 – 2019. 06. 28 (3 days)
<b>4. Main host researcher and affiliation</b>
Professor Tetsuro Matsuzawa (President, ICEE2019 Kyoto and Distinguished Professor), Kyoto University; Dr. Yumi Yamanashi, Kyoto City Zoo
<b>5. Progress and results of your research/activity</b> (You can attach extra pages if needed)
Please insert one or more pictures (to be publicly released). Below each picture, please provide a brief description.
<p>From 22 to 26 of June I participated in the 14<sup>th</sup> International Conference on Environmental Enrichment, held at the Clock Tower Centennial Hall (Kyoto University). The theme of the conference for this year was “Learning from the Wild: Animal Welfare, Conservation and Education in Harmony”. We conduct a Conserv’Session on the first day where we screened the BBC Horizon documentary “Should We Close Our Zoos”, and discussed issues in zoo science and animal welfare.</p> <p>During the conference I presented the work entitled “Facial Expressions of Acute Pain in Japanese Macaques: development of an assessment tool”. For this work we studied captive macaques belonging to the Primate Research Institute and evaluated the differences in their faces before and after a potentially painful procedure. The abstract can be found below:</p> <p><i>Changes in facial expression provide a means of assessing pain in mammals. While biomedical research has a continuing demand for primate models, evaluation of welfare is a crucial issue for the validity of the research and the animal itself.</i></p> <p><i>We are developing methods to assess pain in Japanese macaques (Macaca fuscata) by observing and describing facial expressions using a morphometric approach. Eight adult healthy female macaques that underwent laparotomy were enrolled in the study. Video recording with a digital camera was performed with the macaques undisturbed in their cages at least one day before the procedure and 1 day after the surgery. Screenshots from the pre and post-surgical periods were taken from the videos and selected for analysis on the basis of their facial orientation to the camera. The software ImageJ was then used to annotate the face pictures with 42 landmarks related to specific points selected for their relationship to key areas affected by the facial musculature. The images were then compared at the level of individual subject before being pooled (total: 76 images “no pain”; 52 “pain”).</i></p> <p><i>We observed consistent changes in the faces of macaques which suggest that pain is associated with tightening of the muzzle, as has been observed in other species.</i></p> <p><i>This work potentially offers an effective complement for existing way to train others in the evaluation of pain and welfare in captive primates, using data generated as part of their use in other research procedures.</i></p> <p>I participated on the Workshop: Cultivating a Behavior-Driven Enrichment Program. This was organized by Angela Miller from Disney’s Animal Kingdom. She showed some of the enrichment tools used in the parks in the United States and encouraged us to think about the ideal environment we would like to create if we didn’t have constraints of space and money. The general idea was that we could keep the original idea in mind and adapt to the conditions we could afford.</p> <p>Also, I took part on the Positive Reinforcement Training Workshop. Participants were separated in groups of 6-8 people. After a lecture on behaviour and cognition, we were asked to choose on animal and one behaviour we would</p>

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like to achieve with training in order to avoid unnecessary stress. My group chose the red panda and we staged a quick play showing step-by-step how we could achieve teeth brushing without restraint. It was a very fun workshop.

From June 26 to 28, Professors Daniel Mills (Lincoln University), Crickette Sanz, David Morgan (University of Washington) and I joined the Yakushima post congress tour. There was heavy rain on the first day, but we could enjoy the World Heritage Yakushima Yakusugi Museum. This is a natural museum that exhibits the yakusugi cedars, their history and their importance to the island. In the afternoon we visited Ooko and Senpiro waterfalls and had the chance to see the vegetation and some wild Japanese macaques and deers on the way (photo). At night we went to the beach for turtle watching (photo). This consisted in observation of egg laying of loggerhead sea turtles (*Caretta caretta*) and green turtles (*Chelonia mydas*). The turtles visit the island between May and August, turning this area into the main North Pacific nesting side. It is only possible to visit the beaches with a guide to avoid disturbing the animals and damage the nests. Next morning, we met two researchers from the Primate Research Institute that were working in Yakushima at their monkey study area for a discussion about the Japanese macaques.

Both programs (ICEE and Yakushima) had a great impact in my academic life. It was the first time I gave an oral presentation in an International event and also the first time I visited Yakushima and had the opportunity to see the subspecies of Japanese macaques.

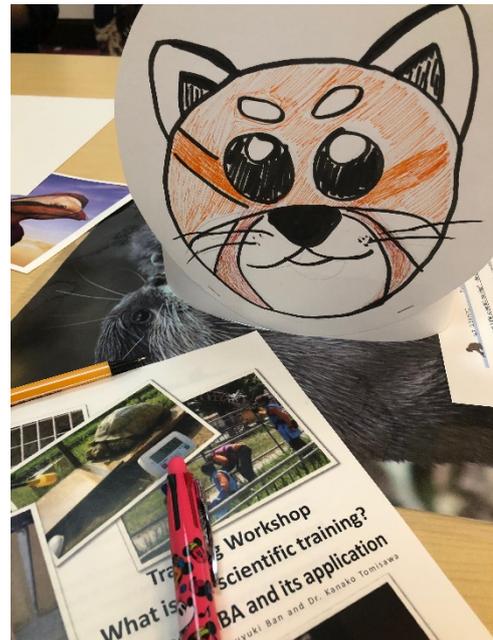


International Conference on Environmental Enrichment in Kyoto, 2019



Turtle trails at Yakushima beach

Picture: Daniel Mills



Animal Welfare Workshop at ICEE, 2019

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Senpiro-no-taki Waterfall in Yakushima



Japanese macaques (*Macaca fuscata yakui*) in Yakushima hiding from the rain

## 6. Others

I would like to thank PWS for the support. Also, thank you to my supervisor Dr Takako Miyabe-Nishiwaki and Dr Daniel Mills for the support on abstract preparation and presentation and to Dr Yumi Yamanashi for organizing the trip to Yakushima.