

My experience with Kakenhi is **Hectic!**

But secured a Grant-in-Aid for Challenging Exploratory Research in 2015, Grant-in-Aid for Young Scientists (B) 2013, Start-up 2009 and participates in Kiban B 2013, 2016"

web.tuat.ac.jp/~venture/kaken.pdf



Who am I?

- Gentiane VENTURE
- 2003 PhD from Ecole Centrale de Nantes • Nantes Univ.
- 2004~2006 JSPS Postdoc @ University of Tokyo
 - with the kakenhi that goes with it
- 2006~2009 Project Assistant Professor @ University of Tokyo
 - couldn't apply to kakenhi & external funding due to my contract
- 2009~ Assistant professor @Tokyo University of Agriculture and Technology
 - Started to write my real first grant applications!
- 2012~ visiting researcher @AIST
- 2013~ Research partner @National Rehabilitation Center
- 2016~ Scientific advisor @Solution KK.

Rapid overview of applications

In the Kakenhi business for 7 years

?	2016	H2020-JP
×	2016	Kiban B (Japanese)
●	2016	Kiban B (分担者)
●	2016	Challenging exploratory (分担者)
●	2015	JSPS international collaboration
●	2015	Challenging exploratory (English)
×	2015	Wakate A (Japanese)
×	2014	JST PRESTO さきがけ
●	2013	Wakate B (Japanese)
×	2013	Shiseido女性研究者
●	2012	Kiban B (分担者)

×	2012	Wakate A (English)
×	2012	Challenging exploratory (English)
×	2012	JST A-STEPフェーズビリティスタディ
●	2011	JST A-STEPフェーズビリティスタディ
●	2011	Neurocreative Lab.
×	2011	Wakate A (English)
×	2011	Challenging exploratory (English)
×	2011	JST A-STEPフェーズビリティスタディ
×	2011	Shiseido女性研究者
●	2010	JSPS international collaboration
×	2010	Wakate A (English)
●	2009	Start-up (English)



What I've learned

- Step by step
 - Start-up, Wakate B, Wakate A/Kiban B & Challenging exploratory...
- To choose the topic/keywords really matters
- To look at who are/were the evaluators
 - Get yourself known in the community
- Write in plain, simple to understand language
- Position your work wrt domestic/international
- Believe in your work and proposal
- Work on the visuals (no too plain, not too cartoonish)



“Challenging research” specifics

- Innovative promising topic
 - Go with your craziest ideas and concepts!
 - No need to prior base of research, but connect dots
 - Can be something completely new for you
- 1,2 or 3 years?
 - 1 year strategic when money needed at once
 - 2 years when other funding not secured ← Me
 - Never 3 years
- English or Japanese doesn't matter much



What I thought and may be wrong

□ English proposals lesser evaluated

■ Not correct

□ Proposal are evaluated seriously

■ Not correct: there is a big part of randomness

■ The first paragraph is crucial

■ The visuals are crucial. Must be in B&W



What is always true

- Have someone naïve read your proposal
- Highlight what is important: underline, bold...



Purpose of the Research (Outline) * Concerning the Purpose of the Research Project, the applicant should succinctly summarize and describe in detail.

Robot acceptance (受容) is **crucial in Human-Robot Interaction (HRI)**. Without acceptance interaction is not possible and robots are useless. It is known that robot's design and ability play an important role in acceptance. In this project, we propose a framework to be used in HRI study. We **build a small humanoid robot which appearance and ability can be changed easily**. The robot consists in a skeleton driven by ultra-sonic motors, and a 3D-printed changeable skin or shell. The simple assembly of the system and its high motion ability is perfectly adequate for HRI studies, and contributes to develop widely accepted social robots.

1) Scientific background for the research:

Human-human social interactions often happens with some feeling of ambiguity, especially in a first encounter. In human-robot interaction (HRI), the question of social acceptance and “intuitive” and “successful” interaction is crucial since the difference between humans and robots is fundamental. Yet, humans expect **intuitive and easy exchanges when interacting with robots, even at first encounter**. This is what defines the sociability of robots (Brayda and Chellali, Int. J. of Social Robotics (2012)).

The quality of an HRI depends strongly on the robot: its **appearance**, its **abilities**, its **features** and **autonomy**. Bartneck et al. (Int. Symp. on Robot and Human Interactive Communication (2009)) argue that further research is needed to understand and determine which aspects, degrees of likeability and of similarity between humans and robots are required to enable empathic and intuitive HRI. The variety in humans, in robots and in possible encounters, makes the study of HRI extremely complex and needed.

The concept of the uncanny valley described by Prof. Mori (Energy (1970)) and the concept of familiarity studied by Kamide et al. (European Congress of Psychology (2013)), are often used to evaluate the effect of robot design in HRI. However, their approaches was not conducted with real robots, but only by showing images of robots of different design and ability. This biases their results by the lack of realistic scenario and involvement of participants.

In our previous research we have developed an experimental protocol and a questionnaire to **evaluate the role of familiarity in first encounters with robots**. Our experiments were conducted live, with a

What is always true

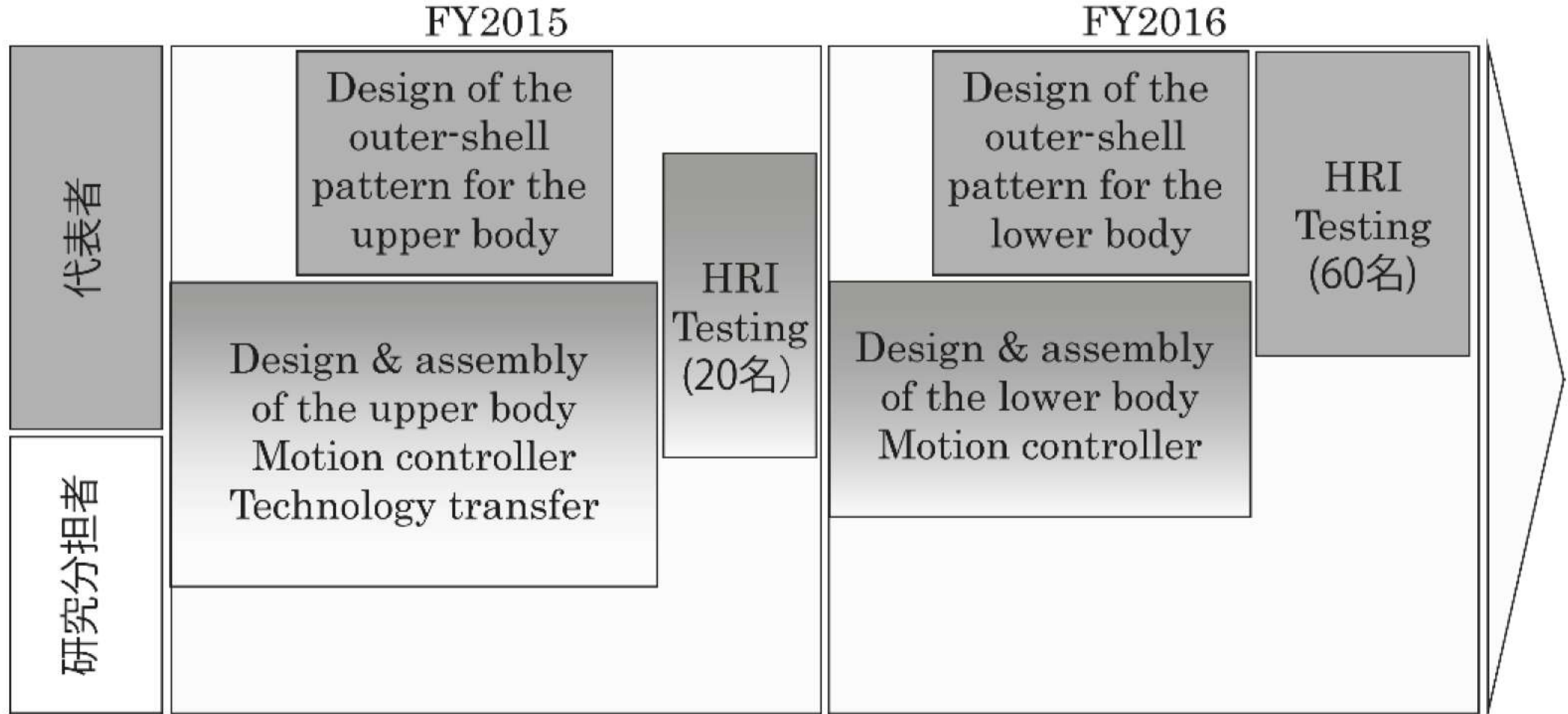
- Have someone naïve read your proposal
- Highlight what is important: underline, bold...
- Split tasks and assign roles if co-investigator



In order to fulfil our challenging research goals we propose to split the robot in two parts. We **first build the upper body of the robot (FY2015)** and do a **preliminary HRI study to test it**, and then **prepare the lower body of the robot (FY2016) and test it in HRI**. The design of the upper body of the robot doesn't have to consider standing and balancing, thus is significantly simpler. Once the upper body is ready, the lower body is designed and assembled using the knowledge acquired while building the upper body.

For management simplicity and efficiency the project is divided in three tasks, and since the robot is split in two parts, each task is repeated twice (see Fig. 3):

1. The **design & assembly** task is done in collaboration with our co-investigator. This is one original aspect of our research plan, since it consists not in just asking our collaborator to provide us with the necessary technology (特願平 11-68119, 特願 2001-254243, 特願 2001-372338), we also plan a **transfer of competences from our co-investigator** so that in the future we can independently use the ultrasonic motor technology to develop humanoid robots for HRI studies.
2. The **design of the outer-shell** task is conducted solely by the principal investigator. The aim of the project is to be able to replace easily the outer-shell of the robot. For that a pattern of the outer-shell inner parts, taking into account the design of the skeleton is necessary. With this pattern, almost any outer-shell can be created using 3D-printing.



What is always true

- Have someone naïve read your proposal
- Highlight what is important: underline, bold...
- Split tasks and assign roles if co-investigator
- Justify expenses in your research plan
- Write about back-up plans: what if you're wrong?
- Think about dissemination:
 - Scientific (journal/conferences) and general public (press release/open lab)



No magic, just trying!

Thank you!

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