

〈講 演〉

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キリンをシマシマに変える話

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**How Do Animals Dress Up Their Skin?**

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**Abstract**

It is known that the pattern present on the animal's skin is a kind of wave (Turing pattern) created by the interaction between pigment cells. Basically, the patterns of all species are made on the same principle, the difference of patterns by species depends on subtle differences in interaction. So, if you find a molecule responsible for its interaction and artificially change its function, it should be possible to change the pattern. Our research group has revealed the interaction between pigment cells through molecular genetic experiments using zebrafish over the last two decades. Molecules responsible for interaction are already evident. By manipulating these genes, we are able to freely convert zebrafish patterns. Because the principle of pattern formation is probably the same for mammals, now, it is not impossible to change the skin of giraffe to the pattern of zebra horse.

**Key words:** pattern formation, Turing, skin pattern, pigment cell, simulation.