

KOKORO NEWS

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Female-type android -taking a step toward future



Cybernetic Human

Latest model in the HRP series

A new female-type humanoid robot (Cybernetic Human) "HRP-4C" was released by Humanoid Research Group, Intelligent Systems Research Institute, National Institute of Advanced Industrial Science and Technology (AIST) on March 16, 2009.

Kokoro joined the HRP development team through the bidding of the development project and undertook the production of head and hands and the design of external facing. The HRP series has so far gained public attention as a national project for its achievements including those in enabling biped walking based on the original technology of AIST. With the development of HRP-4C, Japan's robot development has taken a further step.



HRP-4C

**Humanoid Research Group,
Intelligent Systems Research Institute, AIST**

One of the most notable characteristics of HRP-4C is its appearance as a pretty woman. We aimed to build a human-like figure which can blend in with human environment without a sense of incongruity so that it can be utilized in various fields. HRP-4C acted as an MC for the opening ceremony of "Japan Fashion Week" which was held at Tokyo Midtown, which is part of the evidence that its human-like figure is praised in various areas.

It is also possible to conduct more reliable and highly-repeatable simulation using HRP-4C taking the advantage of its human-like figure in the field of simulation which involves risk. HRP-4C is a robot based on a totally new concept. It can substitute for a human being only because of its lifelike appearance. Please look forward to its future success!

For articles on Kokoro's production, please click "Events" on the top page of our website at <http://www.kokoro-dreams.co.jp/english/index.html>.



The iris was designed like a shutter of a camera.

Life-likeness is expressed by external facing with a soft form.

It has a well-proportioned figure.

Detail of the waist part.



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**Get energy from Dr. Noguchi!
Renewal of Hideyo Noguchi Memorial Hall
in commemoration of its 70th anniversary**

“Laboratory of Dr. Hideyo Noguchi”

Hideyo Noguchi Memorial Hall (in Fukushima prefecture)

When you step into the room invited in by Dr. Noguchi, you can see reproduction of his laboratory in 1914. The cheerful facial expressions and the passionate gestures of Dr. Noguchi tell his vigorous character. He answers to questions from visitors and gives encouraging words to them. Visitors can get energy from “virtual experience” of encounter with cheerful Dr. Noguchi.

This experience full of realistic sensation was enabled by reproduction of Dr. Noguchi in the form of a human-type robot in which realism was pursued to the maximum. Its authentic looking, various facial expressions and earnest eyes make its words meaningful and inspirational. Let’s visit the laboratory and experience this exciting encounter!

The laboratory of Dr. Noguchi in Rockefeller Medical Institute in 1914 was reproduced. Equipment and books equipped there are also valuable and vintage.



As you get closer, you can feel the skin texture and the eye power more vividly.



You can hear messages from Dr. Noguchi by pressing these buttons. You can select a button among “5 questions to Dr. Noguchi” and “Short message” . Let’ s ask directly to Dr. Noguchi “What did you think when you were printed on a thousand-yen bill” ?

**The breath of history revives in the present age.
Convey the words of great figures to the present.**

**A hero of the Meiji Restoration reappears!
Takamori Saigo robot**

Museum of Meiji Restoration (in Kagoshima Prefecture)

The Restoration Experience Hall in the Museum of Meiji Restoration showed its renewed look on February 26, 2009. The Takamori Saigo robot, which is a main character in the popular robot drama “The road to Meiji Restoration”, was renewed to be a more sophisticated robot. Kokoro helped build this robot, in which internal mechanism was completely changed into the latest system and which has a more expressive face than before. The Saigo robot appears in the center of the hall in a dignified way when the story of the dawn of Japan starts. The story tells about the tumultuous time hotly and nobly through talks with other characters such as Toshimichi Okubo and Shinpachi Murata. Visitors can experience the hot days of Meiji Restoration by watching the theater which conveys the breath of Meiji Restoration with a wide variety of performances making full use of sound and light, and with the overwhelming presence.



The impressive eyes show his grittiness. We focused on the expression of inferiority also in external facing.

The renewed Takamori Saigo robot. Its facial expressions and gestures have become more expressive and its braveness and presence has been enhanced.

Takamori Saigo standing in the center of the circular hall. He plays in a tumultuous drama with other characters such as Toshimichi Okubo, Shinpachi Murata, Iwao Oyama and Heihachiro Togo.



Special exhibition which explores the secret of androids



How to make an android

“How to make an android” is a new planned exhibition which is produced by Kokoro, builder of “Actroid” which has been gaining a high reputation as the most beautiful female-type robot in the world. A secret story behind the production of it, how to make it and the secret of androids which has not been unveiled so far will be released extensively with video images and various explanatory materials!



Visitors will get interested in multiple technologies of robots by learning how to make an android and its mechanism with having fun. Furthermore, the skin and parts actually used in Actroid are also exhibited. Visitors can feel the android technology more real by directly touching the material and the mechanism.



Heated talk between dinosaurs!



Funny talks by dinosaur entertainers! ! Dinosaur talk shows

Kokoro's dinosaur robots can make up a show with free programming or staging using voice interaction system, etc.

Various dinosaur shows, including a comic dialogue between dinosaurs in a human language and a quiz battle between a dinosaur and a human being, can be performed combining various ways of staging and video images.

Talkative dinosaur robots which can serve as MC robots have a strong character impact!

In addition to dynamic huge appearance which is peculiar to dinosaurs, the event volume can be increased by show performance. Satisfaction of visitors will be increased to the full extent!

They can help in seasonal events!

A comic duo of Tyrannosaurus and Mamenchisaurus. Video images on the monitor between them make the talk more exciting!



Dialogue between human beings and a dinosaur! The stage which involves visitors!

Tyrannosaurus show which is being held in “Ocean Park” in Hong Kong. Visitors can enjoy the quiz battle with Tyrannosaurus!

Merry Christmas!

Velociraptor (Santa Claus version) which appeared in the “2009 Sanrio Christmas Exhibition”. It supports sales promotion by saying human words such as “Merry Christmas!” or “Economic recovery!”



Flexibly available in various places from a small space to a large stage!



Information system for the new era! Reception robot

Kokoro has so far developed information robots which can serve as receptionists in offices or factories. Now that technical feedback from demonstration experiments of information robots using “Actroid-expo” models in the 2005 Aichi World Expo has been prepared, more advanced information robots will finally appear soon. This time, we introduce 4 types of such robots from which you can select according to your needs. With a wide variation, these robots can respond to various scenes.



Type-A Interactive icon type robot I-FAIRY

I-FAIRY is a very adaptable small-type robot which can be used for various purposes such as product promotion in the exhibition booth, etc.

Type-B Amusement type robot

It can attract attention in the amusement scene where a lot of children gather. It can support seasonal events with different clothes and scenarios.



Type-C Beautiful receptionist type robot

Beautiful girl type robot which serves as a receptionist in an office. It can meet various requirements and support various scenes in combination with touch panel guidance, voice recognition system, etc.



Type-D Versatile information type robot

It can be used in various scenes just by changing a program. Customization such as change of external facing is also accepted.



- Sophisticated form which evokes the impact as if it came from the future.
- Guidance starts by switch. It can also start guidance automatically when it detects a visitor by sensor.
- Scalability which can meet various requirements such as voice response or suitable response depending on circumstances.
- More effective guidance/exhibition is possible by interaction with video equipment.



Science Adventure ODYSSEUM Koln

Kokoro's dinosaur is No.1 in popularity among more than 200 exhibits!

"ODYSSEUM" is the first edutainment center in Germany which was built through integration of education and entertainment. You can learn about lives, the earth, the latest technology and environmental issues at as many as 200 experience stations. The first science surprise you encounter after passing through the entrance is Tyrannosaurus, the most popular exhibit in this facility. In the dinosaur show combined with animation, the age of the dinosaurs and the mystery of their extinction are explained to visitors interactively. Children are very much excited to see active reaction of Tyrannosaurus such as turning right/left quickly, detecting the visitors around it and roaring at them. By making use of a turntable, etc., a very attractive dinosaur was created which has dynamic expressive power even in a limited space.



「Science Adventure ODYSSEUM Koln」 <http://www.odysseum.de/>



The goal is **100%** global share!

Accepting flood of orders from all over the world!

What is appeal of Kokoro's dinosaurs?

If you visit authoritative museums all over the world and see animatronic dinosaurs there, they are probably Kokoro's products. Customer confidence underpinned by reliable technological capability has helped Kokoro gain the largest global share. It's no exaggeration to say that Kokoro's dinosaurs, which have been selected by cutting-edge museums and science centers, are the top brand now recognized worldwide. The two Tyrannosaurus shown in this page have different characteristics respectively (e.g. body shape, color and face). Kokoro's dinosaurs are the top quality products completely custom-built with the greatest care incorporating all the customers' request for various purposes.



Fossil World Discovery Center



T-rex came to the "dinosaur town"!

Drumheller, Canada is famous for dinosaur fossil excavation. You can tell how much the people in this town love dinosaurs by looking at kitschy dinosaurs placed all over the town. Fossil World Discovery Center is a science center built for local children who love dinosaurs near the Royal Tyrrell Museum which has the largest dinosaur collection in Canada. You can study and enjoy science with various entertaining exhibits in this science center. The T-rex robot for the Fossil World Discovery Center was built aiming for "the coolest T-rex" which can satisfy discerning local children who have been raised surrounded by dinosaurs. When it arrived in Drumheller, it was welcomed with enthusiasm by the people in the town and the scene was broadcast on a TV news program as well.

「Fossil World」 <http://www.fossilworld.com/>



Stuffed toy robot for psychological research

Keepon

Kokoro's technology selected in the cutting-edge research area

Creating spontaneous communication of children

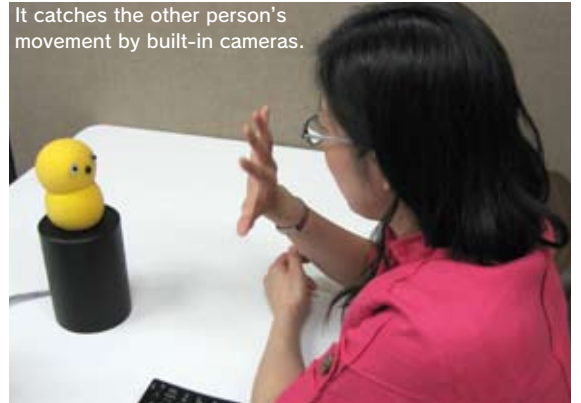
Keepon is the robot for psychological research to observe spontaneous communication of autistic children. Hideki Kojima, professor of Miyagi University (former senior researcher in the National Institute of Information and Communications Technology (NICT)) originally started the research on Keepon and Kokoro provided cooperation in its production. Now they are sold as completed products by a U.S. company, BeatBots LLC. Technologies which Kokoro has cultivated in the development of human-type robots are fully employed in the external facing of Keepon. Kokoro succeeded in expressing a soft touch of Keepon like a marshmallow and the texture of its surface. Accumulation of these technologies has enabled the smooth and lively movement, creating friendliness in communication with children.

Perfect line created by the sensibility of engineers

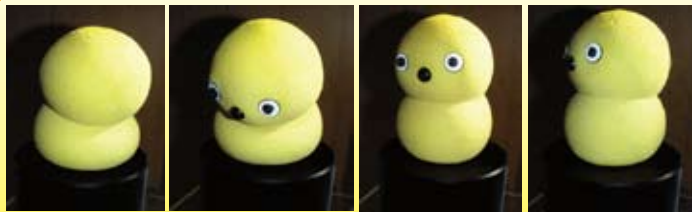
Keepon changes its shape according to various movements but thanks to its well-thought-through design, it can keep a beautiful and lovely line at all times. The key is in the external skin. Exquisite adjustment together with operation check is made during external facing work with the finely-honed sense of veteran engineers. The perfect line of Keepon has been achieved with deliberate and careful work. Kokoro engineers took care not to create a sense of incongruity in its shape which could damage its loveliness. Keepon, which looks very lovely, is the fruit of high-level technologies in terms of not only internal mechanism but also external facing.

Cutting-edge technology hidden in its loveliness

Keepon is capable of eye-contact and joint attention, monitoring the other person's movement by cameras in both eyes. In addition, it can dance to the music or clapping caught by a microphone (in the nose), or to the input by the external acceleration sensor. Cutting-edge technology for the intuitive interaction with human beings is compactly incorporated in this lovely looking stuffed toy robot.



The image seen by Keepon is displayed on the monitor.



Receiving media attention worldwide!

It appeared on "Today show" of NBC, one of the big three networks in the U.S. Also, there have been as many as 2 million accesses to the "Youtube" site which shows the movie of dancing Keepon. It started to receive much attention all over the world after it appeared on a certain foreign artist's promotional video. One reason for its popularity is the gap between its lovely appearance and advanced technology hidden in it.



ターミネーター展

3.19 ~ 6.28
日本科学未来館 (東京都)



恐竜王国 2009 in ラグナシア 恐竜の森

3.20 ~ 5.10
ラグーナ蒲郡 (愛知県)



巨大恐竜博 2009 in 静岡

5.2 ~ 5.5
ツインメッセ静岡 (静岡県)

ロボットが!ピラミッドが! 全国をかけめぐる! Rental event

第20回企画展
吉村作治先生の
ピラミッド・サイエンス!

3.20 ~ 4.5
あすたむらんど徳島 (徳島県)



ピラミッド・サイエンス ~ 神秘の科学を大実験! ~

4.25 ~ 5.6
福島市子どもの夢を育む施設こむこむ (福島県)



挑戦! 頭脳パズルボックス

3.24 ~ 3.31
北社市オオムラサキセンター (山梨県)

※山梨日日新聞に掲載されました

