

YCAM Press Release 19/2/2005

Yamaguchi Center for Arts and Media(YCAM) presents,

Interdisciplinary Scientific Exhibition/Dialogue between Science and Art

## **“Exploration of TIME”**

**March 19 (Sat.) - June 19 (Sun.), 2005**

\*Closed on Tuesdays and May 6 (Fri.), and open on May 3 (Tue.), 2005

**Time: 10:00 – 20:00    Admission: Free**

### **- “Exploration of TIME” – science as culture, art as a way to express science**

The theme is “to discover” the diversity of “time” in which humans are involved, and “to explore it.” Humans are inseparably bound up with “time.” Time assumes diverse, multi-layered forms in the world ranging from the micro- and macro-world of science such as the universe, living organisms, life, and materials, to the world of cultural representations such as literature, art, philosophy, and history. Is it “time” that produced humans, or is it humans that created “time”? Our explorations and experiences in a new world of time will certainly provide us with a hint for humans’ future lifestyle or ways to deepen our thinking.

### **- What is “Exploration of TIME”?**

Through “science as culture,” that is our approach transcending different fields, “time” is viewed from various angles. At the same time, through presentations using different images, space designs, interfaces, and devices based on the idea of “art as an expression of science,” “a comprehensive trip to explore time” is represented, in which scientific views interplay with artistic views.

“Exploration of TIME” was first held at Miraikan in Tokyo in the spring of 2003 (organized by National Museum of Emerging Science and Innovation (Miraikan), and co-planning by the Research Institute for Time Studies, Yamaguchi University). Then it was highly valued as the first

epoch-making exhibition experimenting a science-related theme in collaboration with scientists, artists and designers. Afterwards, it toured China and Mexico. It is currently at YCAM, and it is the first large-scale tour in Japan.

In this exhibition in Yamaguchi, the project is developed with forward-looking collaboration of YCAM, Miraikan, the Research Institute for Time Studies of Yamaguchi University, and local voluntary citizens. Moreover, they have reorganized the way of display and the navigation concept specifically for this exhibition, to produce an updated version. It is important that 6 items out of 24 contents displayed this time are YCAM's original works. In addition, related projects including talk shows, symposiums, lectures, workshops, concerts, and movie shows are presented over three months. (For details, see the flier.)

#### **- Navigation concept**

For this project, the whole YCAM facilities are fully used for the display on a large scale. Starting their exploration at the foyer, visitors go along the course navigated through different time areas and booths. During the exhibition period, related projects with wide-ranged stances and targets will present a variety of events designed for both professionals and amateurs, with the cooperation of the Research Institute for Time Studies of Yamaguchi University. The events include lectures on "time" by experts in different areas, guided tours, introductory guidance, and children's courses. They are conducted simultaneously with the exhibition.

As for the exhibit, the key concept of "time" that constitutes the exhibition itself is expressed in three parameters; "time scale that means different size of time," "time design that means different designs of time," and "time's arrow that means the irreversibility of time." With this classification in three colors, visitors can enjoy the exhibition in a more interesting and easier way.

Visitors can choose their course from either traveling in the order of the exhibits marked with numbers in each display zone or zigzagging their way to warp from this "time" world to that, classified by the three parameters identified in three colors. A total of 24 works arranged in three concept parameters are on display.

## **CONCEPT PARAMETER FOR NAVIGATION**

[\* is a sign for works newly created and featured for YCAM]

### **Time scale (size of time)**

Visitors can experience the diversity of time in different phenomena, ranging from nature, life, and the universe, to the man-made and global networks.

<Items on display are ten>

What is accurate time? / Biological Clock : 24-hour DNA / Animal Time / Spatial Navigating of Constellations\* / Anechoic Space / Time Recorder / Time Episode / The Complete History of Time / Heartbeat Clock / Market as Speed Spectra [MaSS]

### **Time design (different designs of time)**

How are different phenomena reflected on filters such as human cognition, perception, and mentality, and how are they molded into consciousness of time? There are diverse time designs generated by reactions and interactions.

<Items on display are nine>

Exploration of Time in Life / Delayed Phone / Global Bearing\* / Rhythms of Life /  
Audial Time Illusion - How many flashes? / Visual Time Illusion - Is what you see reality? /  
Layeredcape - Sound Stratum\* / Time Warp Sound Clash System II /  
Another Time, Another Space: Marshmallow Scope

### **Time's arrow (the arrow of time)**

An arrow flies forward in a particular direction, and the irreversibility of time and its development generate certain things.

<Items on display are five>

Light Journey / Radio Telescope Observation\* / Slow Motion / Running to the Theory of Relativity /  
Vexations - Composition in Progress\*

## WORKS

### **01 Exploration of Time in Life**

You are "here" "now" as one of the boundless potentials of life and the universe. Your shadow begins to tick the time between the figures representing that potential just like a pendulum. You begin your time journey from this starting gate.

[Scientific Adviser] Shin-Ichi T. Inoue/RITS, Yamaguchi University

[Artistic Creator] Tota Hasegawa/tomato interactive

### **02 What is accurate time?**

The atomic clock is deemed the most accurate timepiece. Even so, plural atomic clocks are used to obtain the average of the standard time. What does accurate time mean?

[Scientific Adviser] Kenta Fujisawa/RITS, Yamaguchi University

[Cooperation] Agilent Technologies Inc., National Astronomical Obs.

### **03 Biological Clock : 24-hour DNA**

Our brains have a built-in clock. We are going to have an overall view of the relations between the functions of 4 DNA's that are said to be controlling our sense of time and the human activities in a 24-hour period.

[Scientific Adviser] Shin-Ichi T. Inoue/RITS, Yamaguchi University

[Artistic Creator] MUSEGRAM & Association Inc.

### **04 Animal Time**

What about elephant's time, horse's time, or rat's time? The animals are different in shape, size, and heartbeat. To begin with, go close to them and touch around their hearts. Let's feel different senses of time coming from their heartbeats.

[Scientific Adviser] Kenji Tomioka/RITS, Yamaguchi University/Okayama University

[Artistic Creator] MUSEGRAM & Association Inc.

[Sound Design] Kohji Setho

### **05 Light Journey**

The starlight that you are looking at right now left faraway stars hundreds of light-years ago. This device provides us with a vicarious form of the light traveling for a long time.

[Scientific Adviser] Tomoya Nagai/Miraikan/Japan Science and Technology Agency(JST), Center for Research and Development Strategy(CRDS)

[Artistic Creator] Asao Tokolo/yellowstudio/DDD+Yoko Ogawa/Miraikan

[Production Support] Azumi Mitsuboshi/tokolo.com, DDD

[Parts of Production Support] Kan Otomo /Sano Seisakujyo, Metal work Saito Factory corp.

### **06 Radio Telescope Observation (\*)**

This work displays a simulation of the radio telescope celestial observation. The large scale radio telescope with a diameter of 32 meters parabolic antenna in Niho, Yamaguchi city, which is managed by Yamaguchi University, is operated by remote control through networks. Thus we can observe celestial objects sending out such strong radio waves as black holes or nebulas. As the radio waves reach the earth after hundreds of light-years, we can observe and analyze their information, and see those celestial objects transformed into visual forms. (※A workshop is prepared for participants to experience realtime this remote control operation.)

[Scientific Adviser] Kenta Fujisawa/RITS, Yamaguchi University

[Artistic Creator] Tomoya Hirayama

[Production Support] YCAM InterLab

### **07 Spatial Navigating of Constellations (\*)**

In this section, websites in relation to space and time are introduced; websites on constellations formed by fixed stars, instantaneous celestial journey, space weather forecast, etc.

### **08 Anechoic Space**

In an anechoic space, neither sounds in the outside world nor even one's breathing can be heard. You can experience mysterious passage of time in a strangely shaped anechoic room. The time that you think is 3 minutes—is it longer or shorter than actual 3 minutes of a clock? (※This program is open to the public only on specific dates and time.)

[Scientific Adviser] Makoto Ichikawa/RITS, Yamaguchi University

[Artistic Creator] flow [Haruaki Tanaka+Kohji Setho]

[Cooperation] WAKABAYASHI ACOUSTIC DESIGN CORP., Metal work Saito Factory corp.

### **09 Time Recorder**

The passage of 700 years has formed the annual rings on the Yaku cedar. Let's observe the time accumulated in nature; strata, coral, tide, etc.

[Cooperation] Yakusugi Museum, Geological Museum/AIST, Shin-ichi Kawakami

### **10 Slow Motion**

A bench moves so slowly that it doesn't look moving. In a movie, for instance, a subject that moves slower than usual can reveal a new aspect. Let's move slowly and look around.

[Artistic Creator] Takeshi Ishiguro

### **11 Delayed Phone**

A TV phone that can change the speed of transmitting sound is presented. Operated in a different way, sounds and images could be on different wavelengths. You can understand that our casual communications are possible only on an amazingly complex and delicate balance of "pauses" and "coincidences."

[Artistic Creator] Ryota Kuwakubo

[Programming] Motoi Ishibashi

### **12 Time Episode**

Many interesting episodes or anecdotes on time are introduced to connect individual displays.

[Text] Shin-Ichi T. Inoue/RITS, Yamaguchi University

### **13 The Complete History of Time**

The universal time was created as a result of the big bang about 15,000,000,000 years ago. You find ourselves standing in the course of a long period of time that has kept going on since the age when life came into being from substance, and then a human being was born. Step on the footpad, and you can move the virtual time history forward or backward.

[Scientific Adviser] Tomoya Nagai/Miraikan/Japan Science and Technology Agency(JST), Center for Research and Development Strategy(CRDS)

[Artistic Creator] Rieko Miyata + Hisato Ogata

[Illustration] KAGAYA studio, Hideo Fukuda/Miraikan

[Cooperation] National Astronomical Obs., NASA, Shinya Wanashiro/Sophia University

#### **14 Heartbeat Clock**

Put your forefinger into the interface. A special sensor measures your heartbeats through your finger, and those heartbeats draw beautifully revolving light circles in front of you.

[Scientific Adviser] Kenji Tomioka/RITS, Yamaguchi University/Okayama University

[Artistic Creator] Yasuhiro Suzuki

[Programming] Toshio Iwai

[Technical Support] Atsushi Hiyama

#### **15 Global Bearing (\*)**

How is the horizon of the earth that we are aware of? We sense it as horizontal, while we know that it is round. The aim of this work is to learn about the other side of the earth by going across inside the earth from a city on the surface of the earth. You can experience and sense such time, measured by a scale that is different from that on earth. You can move freely and minutely the interface on a steel pipe in the center.

[Artist] Norimichi Hirakawa

[Production Support] YCAM InterLab

#### **16 Rhythms of Life**

A variety of life is performing their activities along with the solar movement during a day (24 hours). The actions of cells, plants, the sky, the ebb and flow of the tide, etc. during a day can be viewed in this multi-image installation.

[Scientific Adviser] Kenji Tomioka/RITS, Yamaguchi University/Okayama University

[Artistic Creator] Yoshiaki Nishimura /Living World

[Co-production] Tariho Fujimoto/Living World

[System Design] GK Tech Inc.

[Sound Design] Kyo Ichinose

[Editing Cooperation] Yasunori Kasuga/O:g

#### **17 Audial Time Illusion - How many flashes?**

Is it possible that the frequency of flashes looks changed depending on the number of times of sounds echoing around, even when the frequency of light flashes is fixed? Why not test it with your eyes and ears?

[Scientific Adviser] Makoto Ichikawa/RITS, Yamaguchi University

[Artistic Creator] Kohji Setho

### **18 Visual Time Illusion - Is what you see reality?**

What the human brain processes as reality is not exactly the same with reality. This program shows visual time illusion studied in the field of cognitive science. How believable is your cognition? Which is correct, a sense of time or a spatial vision? You can experience an interesting gap between perception and senses.

[Scientific Adviser] Makoto Ichikawa/RITS, Yamaguchi University

[Artistic Creator] Kei Fukuda/maf\*maf

[Graphic Design] Osamu Ouchi/nano-nano graphix

### **19 Running to the Theory of Relativity**

If one runs at a high speed, the progress of time slows down. Let's have a practical experience of the theory of relativity by running and carrying a watch that loses time in proportion to the increase of the running speed. This year is the World Year of Physics 2005, the 50th anniversary of Albert Einstein's death, and 100 years after the announcement of the Theory of Relativity. A commemorating display is arranged.

(※This program is open to the public on specified dates and time.)

[Scientific Adviser] Kenta Fujisawa/RITS, Yamaguchi University

[Artistic Creator] Takuya Shimada/Miraikan

[System Design] GK Tech Inc.

### **20 Vexations - Composition in Progress (\*)**

Eric Satie who put forward "music of furniture" composed "Vexation" in 1895, which is called the original of the repetition music as well as a mysterious piano piece. The music of a short 1-minute line and chords is repeated 840 times, but in this exhibition, the way of repetition is slightly altered. First, the phrase of the original is played on the piano, which is said to have been brought to Yamaguchi in 1828 by Philip Franz von Siebold and is the oldest piano in Japan (owned by Kumaya Art Museum in Hagi city, Yamaguchi), recorded and reproduced through speakers. Then, the sounds in the whole site including the noise in the surroundings are recorded again, and the overall information gathered is processed by computers; from auto note input to translation into scores. Based on this score, the music is recomposed by the sound data on a piano keyboard stored in a computer, and reproduced. As the visitors' voices and spontaneous sounds in the environment are collected, "Vexation" gradually undergoes a transformation through the feedback loop on the program.

[Artist] Yuko Mohri, Soichiro Mihara

[Support] Masayuki Yasuhara/RITS, Yamaguchi University

[Piano] Seiko Tokutomi

[Production Support] YCAM InterLab

[Cooperation] Hiroichi Sumikawa, Kumaya Museum

## **21 Layeredscape - Sound Stratum (\*)**

A sound that was heard just a day ago at the YCAM café space "BIT THINGS" is reproduced automatically on a computer. As it sounds all of a sudden, it may startle visitors. The sounds at that time are also recorded, and will be the sound source for the following day, and such accumulation goes on. The past, present, and future will be seen for a moment through sound.

[Artist] Iori Nakai

[Production Support] YCAM InterLab

## **22 Market as Speed Spectra [MaSS] (\*)**

In an advanced information-oriented society, the exchange of money becomes increasingly invisible. Colossal capital that is too big to be converted into any material is moving around the world on electronic networks. In this display, a fluctuating world of the stock information on networks, which changes at a speed beyond our cognition and perception is presented in images.

[Artist] Kouki Yamada, Yoshihiro Kunihara

[Planning and Production Support] YCAM InterLab

## **23 Time Warp Sound Clash System 2**

Music is composed of the combination of sounds and time; repeat, reverb, and delay. You can control sounds freely and operate time on this DJ machine-like device.

[Artistic Creator] Seiji Hakusui-Seiji "BIG BIRD", Michiharu Shimoda/MINTOS

[Cooperation] SHIMOMURA ONKYO Co., Ltd.

## **24 Another Time, Another Space : Marshmallow Scope**

An image that is seen at the moment will be a little delayed or warped. They are artworks that use time as materials. When was the image you are now looking at made originally?

[Artistic Creator] Toshio Iwai

## CREDITS

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Production Support: YCAM InterLab

Cooperation: Kumaya Museum

Planning: Maholo Uchida(miraikan), Kazunao Abe (YCAM)

<YCAM staff>

Project Curator: Kazunao Abe

Assistant Curator/Cordinator: Rina Watanabe

YCAM InterLab: Shiro Yamamoto (in chief), Richi Owaki, Takayuki Ito, Etsuko Nishimura

Educator: Daiya Aida (in chief), Asuka Kamata, Aki Hayashi

Public Relations: Yumico Cotaki

Director: Shosuke Fukuda

### **<INQUIRY>**

**Yamaguchi Center for Arts and Media (YCAM)**  
**7-7 Nakazono-cho Yamaguchi-city 7530075 JAPAN**  
**tel: +81-83-901-2222 fax: 81-83-901-2216**  
**email: [information@ycam.jp](mailto:information@ycam.jp) <http://www.ycam.jp/>**