Inter BEE 2009

International Broadcast Equipment Exhibition

CONTENT FORUM

Visual Symposium

Creating High-quality Digital Video Content and its Cross-Media Expansion

Wednesday, November 17th, International Conference Room, 2F,
International Conference Hall

Japan Electronics and Information Technology Industries Association

■Coordinator

"Video Symposium", "Video Tutorial Session", and "Special 3D Session"

Mr. Seiji Kunishige

Directer, A Member of Excutive Board,
NHK Art Inc.

As we stand on the verge of complete conversion to terrestrial digital TV broadcasting, radio wave-based traditional media is causing significant earth-shattering transformations. Due to the rapid development of digital technology, a wide variety of terminal devices have been developed and converted into products. In addition, with the expansion of network infrastructure, a diversity of contents is being utilized in a ubiquitous environment across space and time.

In line with such changes, the "Inter BEE Content Forum 2010" will be staging a symposium, tutorial session and special session featuring presenters invited from overseas, under the title of "Expectations for Increasingly User Orientated Content Creation". These will look at the core role played by media services in the full-digital era that is now finally moving into high gear. I will now introduce an outline of the Video Symposium and Tutorial, as well as the Special 3D Session.

Firstly, at the Video Symposium entitled "Cross-Media Development of Video Contents" (Date held: November, 17, 1.00 p.m. – 4.00 pm. (Weds.); Place held: Makuhari Messe, International Conference Hall 2nd Floor, International Conference Room), front-line presenters will introduce specific details of their latest productions to improve the production efficiency of high-quality video contents exploiting VFX and CG technologies currently used for Hollywood and Japanese movies and digital Hi-Vision broadcasting. In addition, specific examples of cross-media development closely linked with media that provides such high-quality content will be introduced. Following each presentation, discussions will be held regarding content quality, production systems, and workflows in the development of cross-media.

At this year's Video Tutorial Session entitled "Basic Knowledge Useful for Video Production Engineers Working in the Field" (Date held: November, 18, 1.00 p.m. – 4.30 pm. (Thurs.); Place held: Makuhari Messe, International Conference Hall 1st Floor, Conference Room 101), lecturers involved since the early stages of the development of various products will give clear explanations together with specific examples of so-called "key technology" essential for the exchange of contents and diverse media services in the full-digital age, including " Basic and Applied MXF Format" and "Basic and Applied Transcoding Technology".

Profile:

Seiji Kunishige, born in 1952, has been specializing in development and implementation of three-dimensional CG production systems for TV broadcasting at NHK since 1983. He is also focusing on development of efficient and effective image creation and production methodologies using above-said systems.

As a Technical Executive Producer since 1985, he has been using motion capture and other CG systems developed by NHK, special-effect, image-synthesizing and CG technologies to promote application of the high-quality digital VFX image content creation to the production of broadcasting programs, utilizing the features of hi-definition images.

Since 1996, he has promoted the development of "single-source, multi-output" data conversion technology to send various broadcasting program contents to a wide range of transmission circuits including the Internet and data broadcasting. He has also been involved in development and production of efficient and effective digital contents. Furthermore, he is promoting studies on new workflows and personnel training in the area of digital VFX image content production, from the perspective of total digital production covering special-effect filming, in-studio filming, CG, image synthesis, editing, etc.

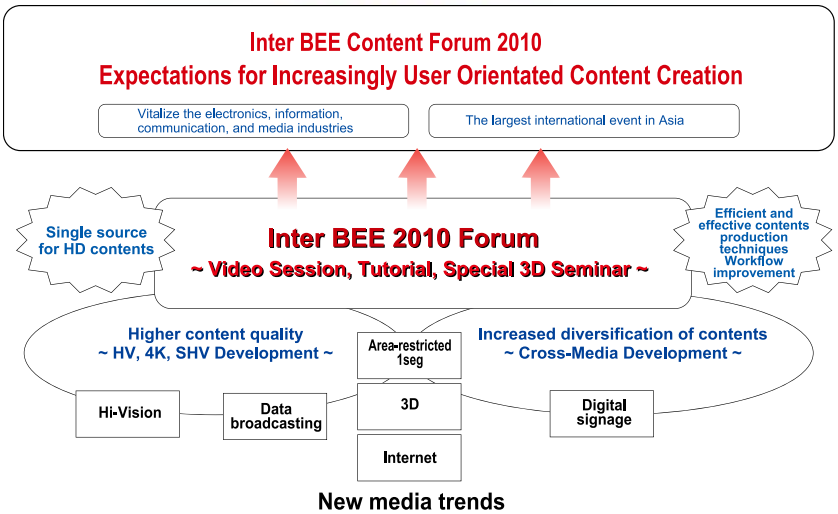
In 2008, he started promoting content development and production for new digital video, etc., which was made possible by collaborating and merging technology with art design. Currently, he is promoting the application of contents, including 3D digital video, to real space, such as theaters (halls).

In 2007, he was appointed a part-time lecturer of the Graduate School of Interdisciplinary Information Studies of the University of Tokyo. He has served Inter BEE International Symposium (Video Production) and Tutorial (Video Production) as a coordinator and the MC since 2002. He worked as a visiting researcher at MIT (Massachusetts Institute of Technology) Media Laboratory from 1985 to 1986. The awards he has received include the 13th MULTIMEDIA GRAND PRIX Industry Prize and the 10th Broadcasting Program Technology Award of the Institute of Image Information and Television Engineers. He is currently a member of the Society of Motion Picture and Television Engineering (SMPTE), the Japan Society of Image Arts and Sciences, and the Institute of Image Information and Television Engineers.

Finally, I will now introduce an outline of the Special Session relating to 3D content which has been attracting interest and raising large expectations both here and abroad over the past one to two years as a new type of contents business (Date held: November, 19, 1.00 p.m. – 5.00 pm. (Fri.); Place held: Makuhari Messe, International Conference Hall 2nd Floor, International Conference Room).

As shown in the title of “Ensuring Human Safety” relating to 3D contents, the Special 3D Session takes up the “Safety of Humans when Viewing 3D Contents”. Current method to view 3D images has extended to households from public viewing environments, such as cinemas or relay broadcasts of sports events, due to the nonstop release of 3D TVs, and increased support for 3D by game consoles and PCs. This has, in turn, led to reported complaints of headaches, eye strain, or a feeling of discomfort when viewing 3D video. Ensuring human safety, therefore, is one of the most important issues of 3D business success.

At this Special Session, clear explanations will first be given about 3D Consortium safety guidelines and about “safety” to promote understanding of such issues by Digital Content Association of Japan producers. These explanations will be provided from the common and individual perspectives of creators, producers and viewers to ensure thorough understanding.



■Presenter

Troublemakers Studios: Hollywood in Texas??

Mr. Alex Toader

Creative Director
Troublemaker Studios

Troublemaker Studios is a film production company founded in 2000 by Robert Rodriguez and Elizabeth Avellan. Located in the heart of Texas,Austin, at the old airport hangars, the studio houses the largest green screen in Texas, production offices a sound stage and the company's own visual effects division Troublemaker Digital. The studio also features a costume department, special effects shop and prop manufacturing facilities.

From its inception Troublemaker Studios was envisioned as a full fledged independent studio away from Hollywood, providing post production sound, editing, mixing, dubbing, pre production and post production vfx for all its productions.

You may have heard of some of them, movies like The SpyKids Series, Once Upon a Time in Mexico, Sin City, Grindhouse, Predators and Machete.

Troublemaker Studios uses a myriad of different hardware and software from a variety of manufacturers. At the heart of our 3D pipeline would be Autodesk Softimage using Arnold and Mental Ray for rendering solutions on AMD multicore workstations utilizing the latest AMD/ ATI GPU's.

Our 3D Pipeline features 100% AMD multicore blade servers with the latest addition of Dell AMD Dual 12 Core Systems and 64 GB memory.

Our 2D Pipeline is backed up by Autodesk Flame and Smoke supported heavily by NUKE. But at Troublemaker Studios technology is second to creativity. Technology is used to support the art and imagination, making possible the realization of avant-garde films like SIN CITY for example.

While the latest technologies and software are used, the creative flow starts with Robert Rodriguez and his creative team. With a proven track record and against all odds, Troublemaker Studios is raising eyebrows and put Hollywood on notice. WE ARE MAKING BIG MOVIES IN TEXAS!

The movie PREDATORS was shot 80% of the locations in Texas, majority of pre production art, the editing and sound were done by Troublemaker Studios.

Troublemakers Studios: Hollywood in Texas??

Creating Trouble? No..Just movies and just in case you have wondered the studio is named after a Cowboy Hat, Robert is a really, rally nice guy!

Alex Toader's Summary:
Film & TV Credits:
• SpyKids 4: Concept art, prop design & build, visual effects. (in production)
• Predators: concept art, prop design & build, pre-viz, visual effects.
• Machete: pre-vis, visual effects.
• Now or Never: (short subject): production designer, visual effects.
• Dead of Night: prop designer
• Queen of the South: storyboards, visual effects
• Shorts: concept art, pre-vis, visual effects
• The Apartment (short subject): special effects make up
• Santos: visual effects
• GrindHouse (Planet Terror/Death Proof): On Set VFX Coordinator, concept art, pre-vis, visual effects
• The Adventures of Shark Boy and Lava Girl: concept art, costume design, prop design and visual effects
• Jack & Bobby, (TV pilot): visual effects
• Sin City: pre visualization and visual effects
• Elsa-Couch (Documentary): titles design
• Idiocracy: visual effects
• Spy Kids 3D: concept art, costume design, prop design and visual effects
• Spy Kids 2: concept art, prop design and visual effects
• Once Upon a Time in Mexico: visual effects
• Spy Kids: concept art and visual effects
• Wing Commander: design, visual effects and matte card paintings
• Titan A.E.: sculptor (props for live action roto) non credited
• Blue Planet: conceptual and inspirational art, c.g. modeling and animation.

Alex Toader' s Experience
• Creative Director
Troublemaker Studios
June 2001 — Present (9 years 6 months)
Creative Director on Troublemaker Studios Creative Team, responsible for concepts, storyboards, prop design and visual effects from design to final comp.
• Lead Artist
Retro Studios
July 1999 — June 2001 (2 years)
Senior Artist responsible for creating art on the Car Combat Project and Raven Blade
• Senior Artist
Digital Anvil
April 1997 — May 1998 (1 year 2 months)
Senior Artist responsible for creating in game art for Freelancer, Starlancer, Conquest: Frontier Wars and visual effects/matte card paintings for Wing Commander (the movie)
• Concept Artist
Rainbow Studios
December 1995 — April 1997 (1 year 5 months)
• Concept Artist
JVC Musical
August 1995 — December 1995 (5 months)
Concept Artist
• Concept Artist
Cinematix Studios
January 1995 — August 1995 (8 months)
Concept Artist

■Presenter

Visual Imagery of the Special Drama, "Saka no Ue no Kumo"

- Creating a Feel of the Meiji Era –

Mr. Makoto Kawamura

Senior Engineer, Technical Operations & Engineering Division, Japan Broadcasting Corporation

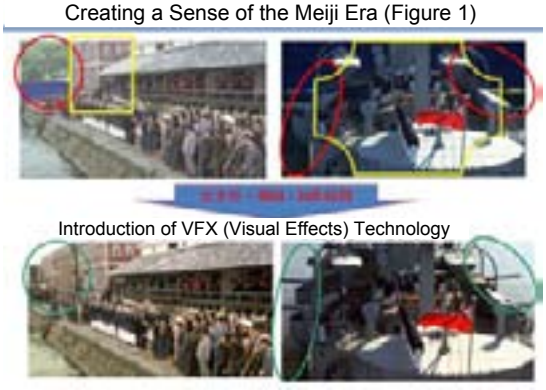
1. Introduction

Marking the opening up of Japan 150 years ago, NHK started Project Japan broadcasts from April last year. There is a phrase called "history has a lot to teach us", but this program looks forward to the future by knowing the past. There are NHK specials and ETV feature programs and a drama called "Saka no Ue no Kumo". The technology used to create the periodic feel of this program will now be introduced.

2. Introduction of VFX

Mr. Ryotaro Shiba wrote the story over 10 long years. He thought that when depicting a drama on a grand scale like this project, authentically recreating items such as the way of thinking, culture and the social system symbolized by cultural enlightenment will lead to an extensive depiction of the Meiji era and the energy of people who vitalized that time. We shot in various Japanese and overseas locations that retain a sense and feel of the Meiji era, but as shown in Figure 1, there were modern things in the vicinity of buildings making it difficult to show things in full due to a lack of depth and dimension. As shown in the box, artistic equipment was made to compensate for this such as a new set and military facilities, but this has its limits. For example, we considered building a battleship set, floating it in the sea and filming it for a naval battle in the Japan Sea, but this was almost impossible due to many safety, cost and production time problems. This is where VFX (visual effects) technology came in useful. Parts that cannot physically be seen and parts shown in the circle were complemented by CG, and VFX technology was used to effectively portray a feeling of the time in these limited production conditions.

Creating a Sense of the Meiji Era (Figure 1)



Introduction of VFX (Visual Effects) Technology

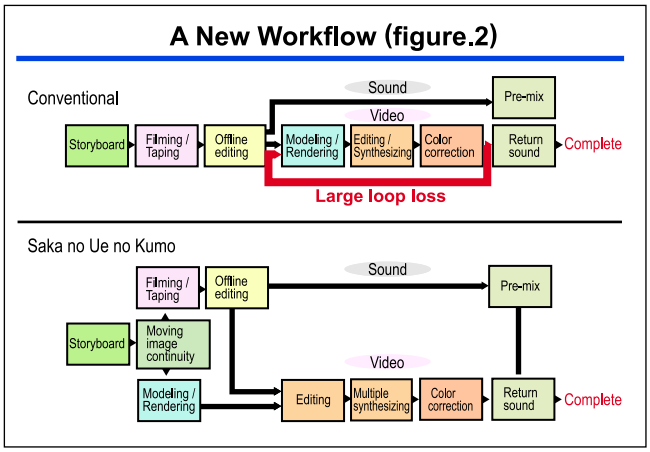
Profile:

1979 He joined NHK' s Kofu Broadcasting Station and became involved in production and operation of news programs, and operation and management of broadcasting equipment.
1983 He made a presentation at a technology forum regarding ways to switch screens by utilizing audio recognition.
1984 He was engaged in the updating process of operating devices at a local station which was said to take place every 20 years.
1986 He produced NHK special program called "Mt. Fuji". He made a presentation on how to manage resources by utilizing barcodes. He was transferred to the broadcasting center the same year and mainly involved in filming work in drama production. He also worked as a filming assistant for serial TV novels such as "Chocchan" and "Rinrinto" and as well as Taiga drama including "Takeda Shingen", "Kasuga no Tsubone", "Taiheiki" and "Hachidai Shogun Yoshimune".
1990 He participated in the Youth Friendship Event hosted by the Foreign Ministry.
1993 1993 He presented the method of synthesizing real images with CG utilized in the NHK special program called "Inochi" at a technology forum.
1995 He produced an ETV special, "Environmental Industrial Revolution Germany' s Efforts", which was themed after the ISO14000.
1997 He worked as a filming chief for Taiga Drama "Mori Motonari", "Genroku Ryoran" and "Hojo Tokimune".
1998 Special drama show he produced, "Tobenai Hane", received the Golden Rembrandt Award at 3rd IBC International Widescreen Festival.
1999 He received the Shibata Award from the Motion Picture and Television Engineering Society of Japan.
2000 He received the Science and Technology Minister Award for devising a light and small pedestal for cameras.
2001 Saturday drama show "Sodefuriaumo" which was produced by him received the excellence award at the Ministry of Education, Culture, Sports, Science and Technology Arts Festival.
2003 He worked as a technical director of Taiga Drama "Musashi" as well as an administrator.
2006 He was involved in the special drama "Sakanoue no Kumo" ' from the beginning

3. Workflow Improvement

By using the latest VFX technology, it is possible to create a feel of the Meiji era in background video and show a synergy between the thinking and energy of people who lived in that era, together with the performances of all the actors appearing in the drama. However, with this production, cuts equal to approximately one-third of the total film must be processed with VFX. It was necessary to reconsider production techniques and how such a vast amount of VFX cuts can be effectively and efficiently generated.

We therefore come up with the idea to introduce moving image continuity (Fig. 2) incorporating production plans, the perspectives of cameramen and lighting works, CG designers and artistic ideas, and improved the workflow.



Introducing this moving image continuity, we were able to create a scene in which live-action troops played by actors, 3D troops to makeup the background image, and 2D troops to be edited and synthesized with the 3D troops could be placed together in the same dimension, helping to raise efficiency.

4. Testing and Constructing aimed at System Design

4.1 Camera Lens
Properties of the lens, which is the gateway to the images, were confirmed

4.2 Progressive Imaging
Imaging methods were confirmed so that they can be synthesized with CG

4.3 Introduction of User
Large-scale mixing compression at filming locations was confirmed

4.4 Recording Format
Recording density of recorded VTR conscious of multiple synthesizing was confirmed

4.5 Post-Production Non-linearization
A server file system that does not use tape except for taping and broadcasting was introduced.

4.6 Development of Terminal for Dual Link Optical Transmission
Adhering to conventional production types, an optical terminal was developed to transmit RGB 4:4:4 with double color information

5. Conclusion

Vivid imagery and image quality unprecedented to date was needed for “Saka no Ue no Kumo”. This included using VFX technology, which was essential to project the Meiji era. This called for innovative workflow and system design to ensure video quality and filming methods that keep up with the times, despite taking 5 long years from production to the conclusion of broadcasting. Therefore, a synthesizing, editing and color correction system returned by the server was built to realize progressive filming, the introduction of hyper-gamma advantageous for controlling the dynamic range, RGB 4:4:4, dual link taping, synthesizing for realism, and an expression of abundant colors. Moving image continuity was introduced in the workflow, establishing a method that enables live-action troops and synthesized troops to be produced in parallel. I believe that the establishment of such operation methods and the construction of this new system, helped to comprehensively bring out the rich expressive capabilities possessed by hi-vision.

■Presenter

Image Sharing in Video Production: Creating Video Effects in "Space Battleship Yamato"

Mr. Masaki Takahashi

Director/Senior Computer Graphics Artist,
Shirogumi Inc.

Shirogumi Inc. was established in 1974 and is beginning its 35th year of business as a video image production company.

Shirogumi strives to produce genuine video images in the spirit of handicrafts that combine traditional hand-drawn and three-dimensional animation techniques with computer graphics and other cutting-edge techniques. Shirogumi aims to send out into the world quality works that reach out and touch people.

I am the chief director and artist in charge of the Computer Graphics Department in Shirogumi' s Chofu Studio, one of five Shirogumi studios. The Chofu Studio houses my department as well as the Composite Department, the Filming Department, which has a stage equipped with motion control cameras, and the Model Making Department, which creates miniatures and other objects.

As you can see by looking at Inter BEE and other events like it, remarkable improvements have been made to techniques related to VFX in recent years. Artists are enjoying a great many options for techniques and methods that materialize their creativity.

As a designer myself, I feel that image sharing between staff members is related to pursuit of quality and to the options we have for a good many existing techniques. Indeed, image sharing enables us to create appealing images.

I' d like to take this opportunity to use the making of video effects for "Space Battleship Yamato," which will be released throughout Japan this December, to speak about themes for works created by each staff member involved in cutting video effects and the process for establishing image sharing between the director and other staff members.

Profile:

Born in Tokyo in 1968. Joined Shirogumi in 1990.
Has participated in a number of video image production projects, including commercials, Hakuten videos, interactive movie games, TV dramas and theatrical films.
Special lecturer at Kurashiki University of Science and the Arts since 2004.

Selected Works

Movies:
Juvenile (2000)
Tales of the Unusual – Special Movie Collection (2000)
Transparent: Tribute to a Sad Genius (2001)
Returner (2002)
Bayside Shakedown 2 (2003)
Always: Sanchome no Yuhi (2005)
Always 2: Sanchome no Yuhi (2007)
K-20: The Fiend with 20 Faces (2008)
Ballad: Namonaki Koi no Uta (2009)
Himitsu Kessha Taka no Tsume The Movie 3 (2009)
Space Battleship Yamato (to be released on December 1, 2010) (Chief CG Artist)

Video Games:
Genji for PlayStation 2 (2005, Movie Director)
Genji: Days of the Blade for PlayStation 3 (2007, Real Time/Movie Director)
Folklore for PlayStation 3 (2008, Movie Director)
Infinite Undiscovery for Xbox 360 (2008, Movie Director)

TV Dramas:
Taikoki – Saru to Yobareta Otoko (2003)
The Last Town We Saw – Apocalypse (2005)
The Hit Parade (2006)

Commercials:
Dawn of Dreams Pachinko/Slot (2010, Director)

■Presenter

Cross-Media Development of Image and Photo Contents utilizing “Google Earth”

Mr. Hidenori Watanabe

Associate Professor, System Design Department,
Tokyo Metropolitan University,Guest Professor,
Digital Hollywood University,Representative Director, Photon, Inc.

This lecture will discuss the cross-media development of image and photo contents utilizing the digital globe, “Google Earth”. These contents include “Yamato Earth” (promotional content featuring a live-action version of “Uchusenkan Yamato” (Spaceship Yamato), “Underwater Camera” (promotional content for the “Beautiful Islands” movie), the “Tuvalu Visualization Project”, and the “Nagasaki Archive”.

“YAMATO Earth”, 2010

“Nagasaki Archive”, 2010

In recent years, digital globe services such as “Google Earth” and virtual world services such as “Second Life” have gained rapid popularity. Rich contents can be easily created, published and distributed to people across the globe for no cost on such platforms, making use of the open source development environment.

Using such platforms, the Hidenori Watanabe Research Laboratory of Tokyo Metropolitan University and Photon Co., Ltd. restructured in virtual space data left behind as image and photo media data such as films, historical materials, NPO activity history, and have worked to release them as an interactive digital archive. Digital globe archives such as “YAMATO Earth” and “Nagasaki Archive” not only allow users to browse a large volume of data while operating it interactively, they also enable communication via e-mail or Twitter. This aims to land new art and entertainment combining content and communication on the digital globe, i.e. “another world”. I will introduce part of these efforts in this lecture.

Profile:
Hidenori Watanabe graduated from the Architecture Department in the Faculty of Engineering at Tokyo University of Science, winning the Graduate Design Award, in 1996 and earned his postgraduate degree there in 1998. He introduced multiple art and design projects and services that applied Internet technology as an Applied Arts Venture Company at Photon. He serves on the faculties at Tokyo Metropolitan University, Digital Hollywood University, Kyoto University of Art and Design and other universities and is also an illustrator for S-F Magazine (Hayakawa Publishing Corporation). He is currently presenting an abundance of art and entertainment content that applies Internet service such as the Tuvalu Visualization Project, Nagasaki Archive and YAMATO Earth.

April, 2010 – present
Associate Professor, Tokyo Metropolitan University Graduate School of System Design, Research Department
April, 2008 – present
Associate Professor, Tokyo Metropolitan University Faculty of System Design
April 2005 – present
Affiliate Professor, Digital Hollywood University
August 2001 – present
Supervisor and Director (CEO until February, 2008) at Photon Co., Ltd.
August 1998 – February 2000
ADI Software/ Sony Computer Entertainment Inc.

■Coordinator

Cross-Media Development of Video Contents”

~ After the complete digitalization of broadcasting, what comes next? ~

Mr. Hideichi Tamegaya
Professor, Graduate School,
Joshibi University of Art & Design

On July 24, 2011, analog TV broadcasts are due to stop and TV broadcasts will be completely digitalized by converting to a terrestrial digital broadcasting service. TV media is closely connected with people’ s everyday lives playing a fundamental cultural and social role, so it is vital to prepare meticulously for this transformation and follow-up on subsequent developments. We have at last reached the final stage of this preparation.

Meanwhile, following conversion to terrestrial digital broadcasting, it is said that media will be entering the so-called cross-media era taking advantage of the qualities of digital broadcasting. With a central focus on mission-critical media such as broadcasting and communications, contents have reached an era in which they are becoming increasingly diversified. Network TV connected to broadband networks has entered the home as a TV service with new features. Also, the wider bandwidth and increased speed of wireless networks for mobile terminals has started to be applied to new contents services aimed not only at cell-phones, but also at portable slate displays.

It has become increasingly important to correctly recognize the current state of media in this era of major transformation and consider how technology will evolve from then into the future, and also widely embrace the sophistication of technology in regard to the production of contents that seek higher quality.

Media sector trends witnessed all over the world are said to herald the arrival of the biggest ever business opportunity for the Internet and portable TV market because of the total conversion to digital TV broadcasting. Gordon Smith who became the new president of the National Association of Broadcasters (NAB) this year stated in his keynote speech, “I'm going to address the following three issues that would change radio and television broadcasting as we know it”. These are performance tax, restoration of TV frequency following transition, and retransmission to cable TV.

These are all political problems that are greatly influenced by media movements following conversion to digital broadcasting, and they are also problems that contents producers need to firmly understand to develop media in the cross-media era.

In addition, a special session will be held at this year’ s Inter BEE Contents Forum based on a theme of “Ensuring Human Safety” relating to 3D contents. This should not be seen simply as a mere boom. Rather, an exact understanding of “safety” related 3D contents is essential and correct efforts in both the fields of equipment and contents production is required. To people involved in the production of top-quality 3D contents, deepening understanding of the multifaceted elements of 3D video is extremely important and they have large expectations for this session.

“Special 3D Session” November 19 (Fri.) 1.00 p.m. to 4.00 p.m.

Topics raised by the Contents Forum will link up with exhibits of the latest equipment presented at Inter BB, and presentations and discussions made at this session will be based on a firm understanding of future media movements. To enable the creation of top-class contents, we hope that there will be lively discussions between presenters and symposium participants.

Profile:

April 1960	Joined Japan Broadcasting Corporation (NHK)
March 1966	Graduated from Department of Telecommunication Engineering, Tokyo Denki University
June 1991	Media International Corporation (MICO)
June 1995	Executive Engineer, NHK Broadcasting Engineering Department
June 1998	Executive Consultant, NHK Broadcasting Engineering Department
April 2001	Professor, Department of Media Arts, Joshibi University of Art and Design
April 2005	Professor, Graduate School, Joshibi University of Art and Design (present)

Hideichi Tamegaya began introducing computer graphics (CG) technology in broadcasting program production in 1981.

He has developed CG systems through many advanced program productions. He designed a new production methodology concept, “Electronic Palette,” to integrate HDTV and digital technologies for the movie production. The concept has been presented to Hollywood and other motion picture industries. Joining Media International Corporation (MICO) in 1991, he has been providing technical consultation and support on domestic and international HDTV, CG and digital media technologies to NHK and other production teams filming HD programs. He made it possible to mount a HDTV camera on a space shuttle for the first time in the world in 1998. He has served on various research committees and councils of the Ministry of Internal Affairs and Communications, the Ministry of Economy, Trade and Industry, and the Ministry of Education, Culture, Sports, Science and Technology, and he is currently working for promotion and development of the digital content industry.

1983	The 12th Ogura-Saeki Award of the Motion Picture and Television Engineering Society of Japan
1997	The High-Vision Awards 97 “The President’s Award of the High Vision Promotion Association”
1999	The High-Vision Awards 99 “The Minister of Posts andTelecommunications Prize”

Tamegaya is a member of the following associations:

- The Association for Computing Machinery’ Special Interest Group on Computer Graphics (ACM-SIGGRAPH)
- The Japan Society of Image Arts and Sciences
- The Motion Picture and Television Engineering Society of Japan
- The Institute of Image Information and Television Engineers
- The Japan Virtual Reality Society
- Administration Officer, Japan Society of Image Arts and Sciences (Representative, Image Education Division)
- Vice Chairman, Asia Digital Art and Design Association