



**Dimitris Kontopoulos**

**Science Communicator, Exhibition Development Department, Miraikan/Greece**

**Dimitrios is in charge of producing content for the Geo-Cosmos, Miraikan's symbol exhibit, and the Dome Theater. He produced Miraikan's award winning 3D full dome film "The Man from the 9 Dimensions," and plans experimental dome events by collaborating with world class artists, musicians and VR producers.**



**SCWS 2017**

Connecting the World  
for a Sustainable Future

# The Future of Fulldome

Kontopoulos Dimitris  
Exhibition Development Division

November 15<sup>th</sup>, 2017



One very unique format



Dome-Theater

## Two very serious “problems”

- Not that many people have experience in creating films for a spherical surface
  - Sustainability

# Production of a 3D Fulldome Film

The Man from the 9 Dimensions

$$(t, r) = \int [dq] e^{ik \int_0^t 1(q, q) dt}$$
$$q(t) = q$$

光子の質量から

$$E \sim (D-1) \times \frac{3}{2} \left( \frac{1}{2} + \frac{2}{2} + \frac{3}{2} + \dots \right)$$
$$= \frac{3}{4} (D-1) (1+2+3+\dots)$$

ブラックホール:

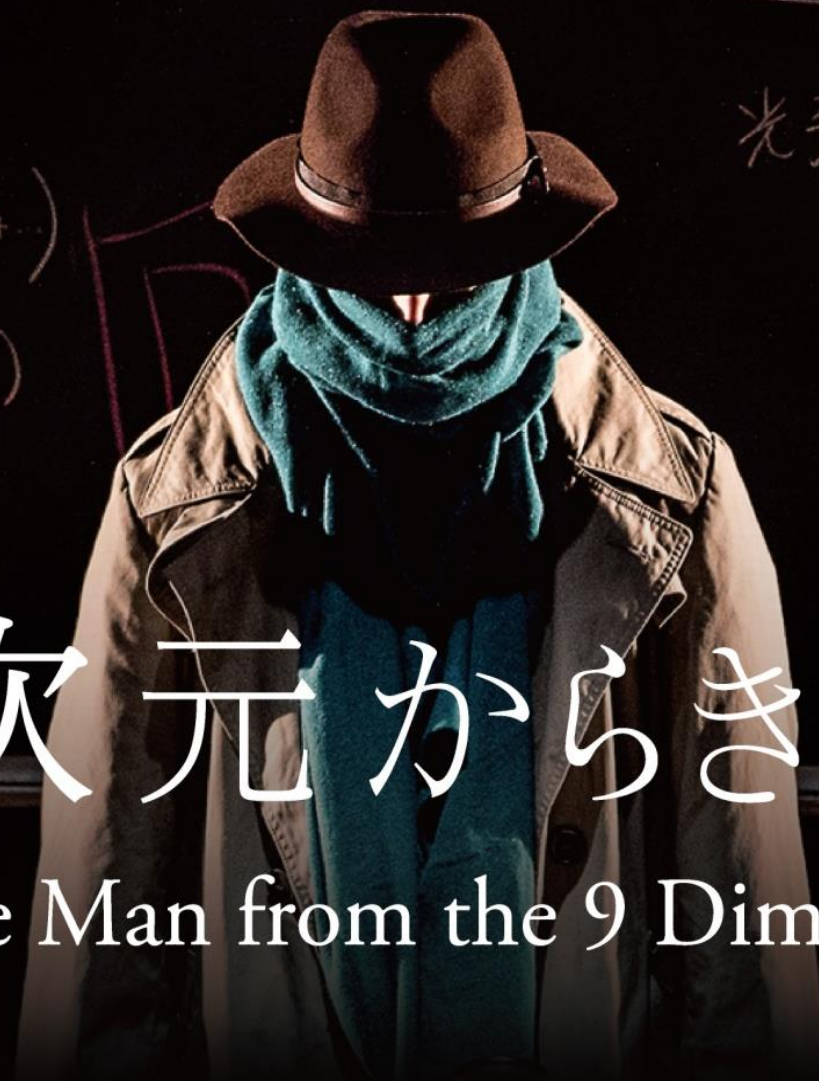
$$ds^2 = -\left(1 - \frac{r_s}{r}\right) dt^2 + \frac{dr^2}{1 - \frac{r_s}{r}} + r^2 d\Omega^2$$

光子励起エネルギー  $\propto \frac{1}{2} \Rightarrow (\text{光子の質量})^2 \propto$

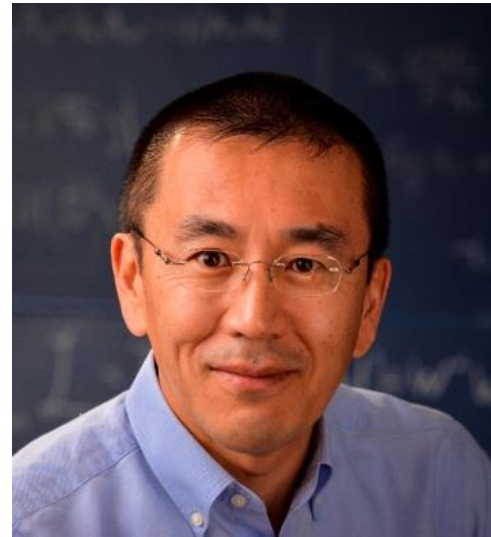
$$= \frac{1}{2} + \frac{3}{4} (D-1) \times \left(-\frac{1}{12}\right)$$
$$= \frac{9-D}{16}$$

# 9次元からきた男

The Man from the 9 Dimensions



# A 3D fulldome film about the “Theory of Everything”



Scientific Advisor : Prof. Hiroshi  
Ooguri



# Collaboration with a horror movie director



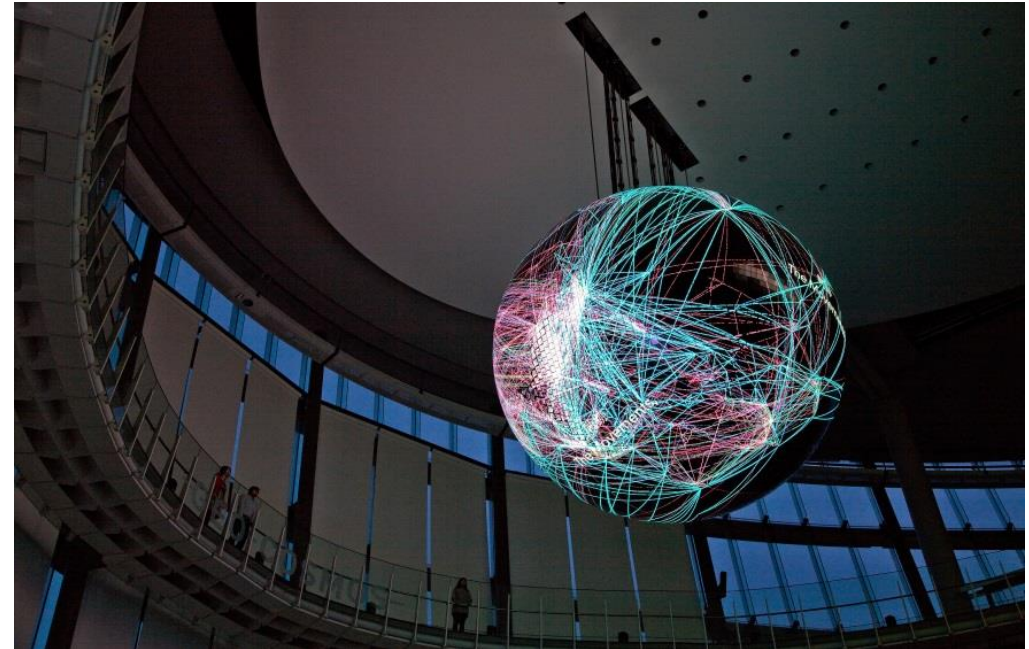
Director:  
Takashi Shimizu



Hollywood debut with the  
remake of "The Grudge" (2004).  
The movie was number 1 for two  
weeks in the U.S. box office.



Collaboration with a computer graphics and post production company.



Put on your 3D glasses  
please

## So far...

Best Educational Production Award  
International Planetarium Society  
Fulldome Festival 2016

Good Practice Award 2016  
Advanced Imaging Society

Best Visual Effects Award  
2017  
VFX-JAPAN 2017

Jena Fulldome Festival  
Honorable Mention

IMERSA Summit 2017 (U.S.A.)

International Festival of  
Science Visualization 2017 (Japan)

Melbourne International  
Film Festival 2017

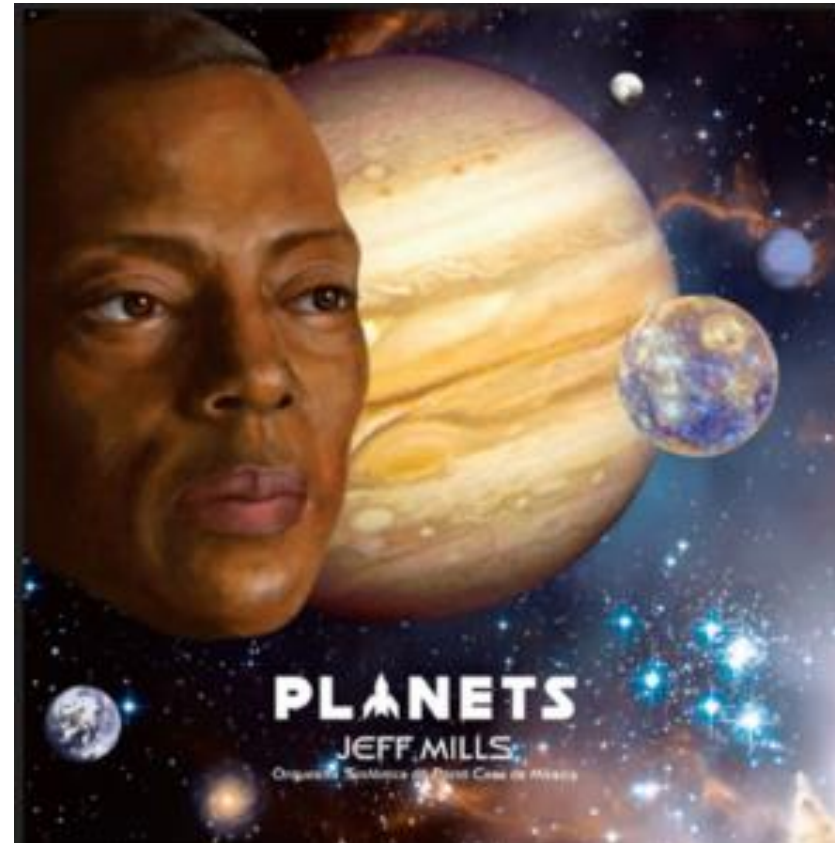
Geneva International  
Film Festival 2017

Immersive Film Festival 2017  
(Portugal)

Production of a show using Virtuarium

Pre-listening event for the  
electronic-classical album “Planets”

# Collaboration with Detroit techno DJ Jeff Mills.







# VR to Dome Experiments

#VRtoDome #ドームでVR

Series of events using the VR video game “Rez”

# Collaboration with Enhance Games, Orihalcon Technologies





VR contents in the Dome.

1 player, 100 viewers. Shared VR content experience.



In 4 hours

650 people inside the Dome  
250 people outside













Exploring new visual expressions for the dome

Screening of “Interpolate”, “Hyperform”

Co-production of “Noesis” for MUTEK Japan 2017

# Collaboration with MUTEK

the Montreal-based festival dedicated to the promotion of electronic music and the digital arts. (November 3-5)



**MUTEK<sup>JP</sup>**

**Tokyo Japan**

Edition 2  
2017.11.03-05

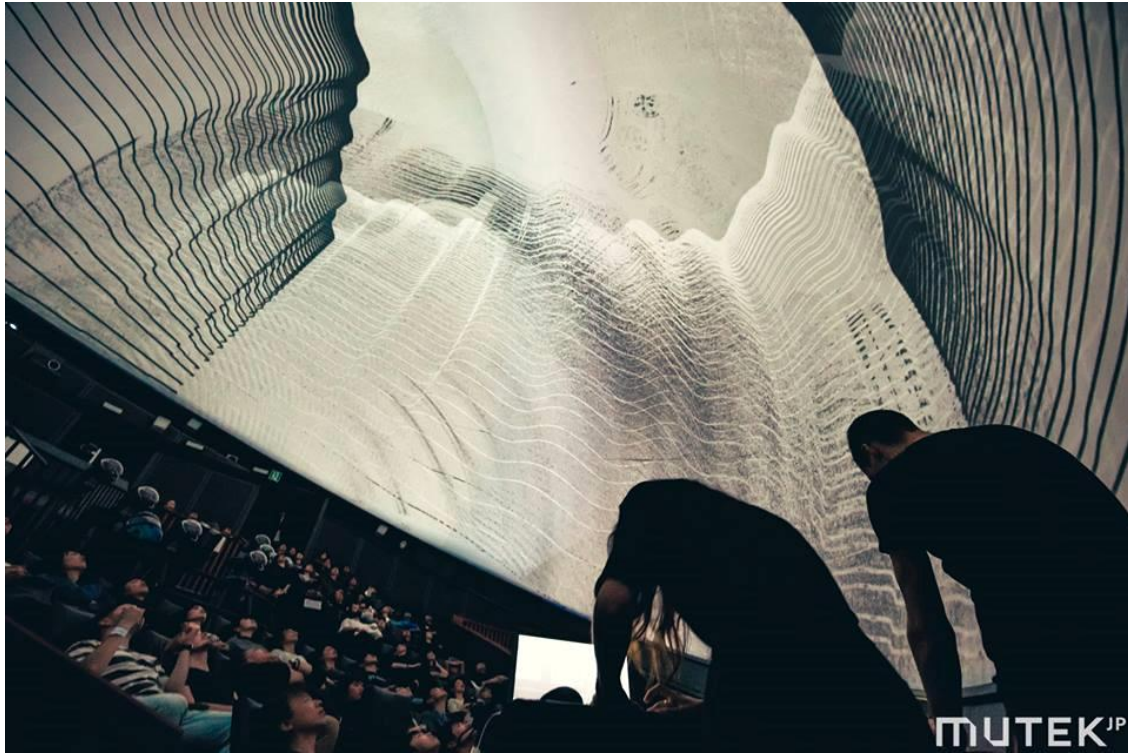
- Miraikan
- The National Museum of Emerging Science and Innovation

Aalko aka Akiko Kiyama<sup>JP</sup>  
CLAIR DE LUNE for ISAO TOMITA<sup>JP</sup>  
Daiki Tsuneta  
Millennium Parade<sup>JP</sup>  
DE DE MOUSE<sup>JP</sup>  
DJ PI-GE<sup>JP</sup>  
DUB SQUAD<sup>JP</sup>  
Francesco Tristano<sup>LU</sup>  
galcid<sup>JP</sup>  
Guillaume & The Coutu Dumonts<sup>CA/QC</sup>  
Groove Patrol<sup>UK</sup>  
Hatis Noit & Nobumichi Asai<sup>JP</sup>  
Hidefumi Watanabe<sup>JP</sup>  
HIFANA<sup>JP</sup>  
HVOB<sup>AT</sup>  
Intercity-Express & Synichi Yamamoto<sup>JP</sup>  
James Holden and

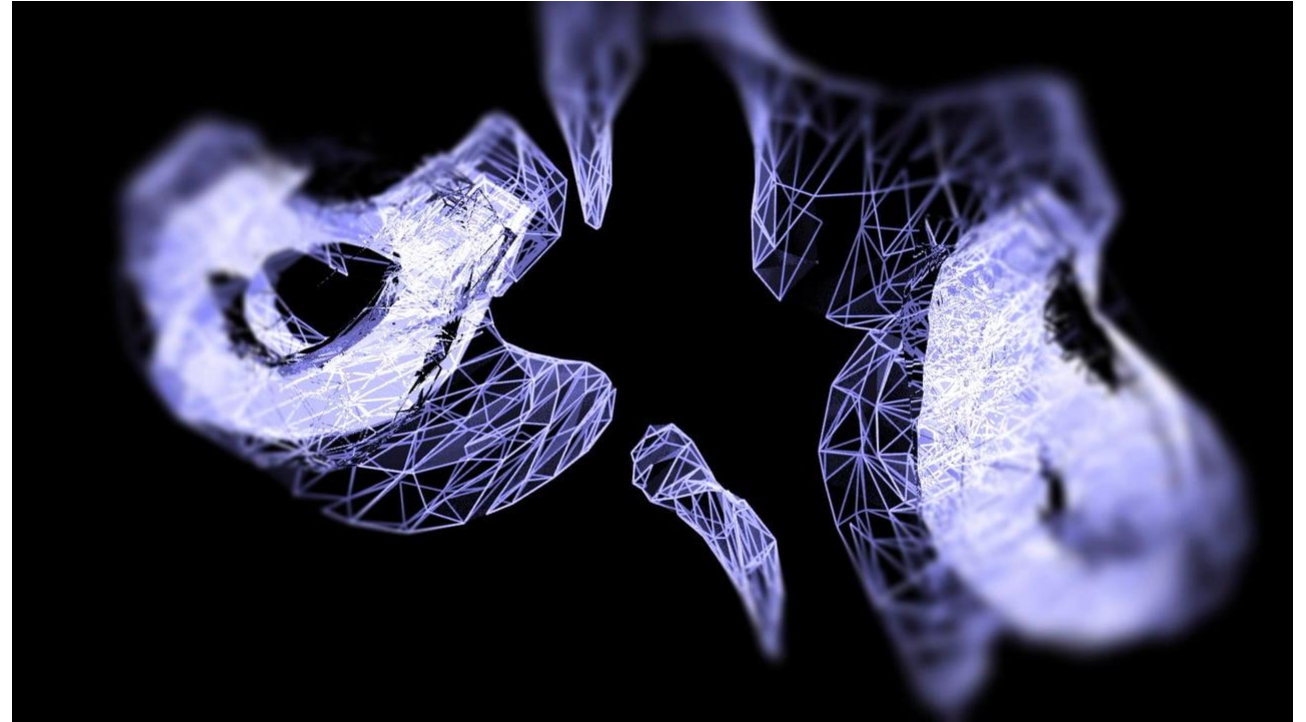
the Animal Spirits<sup>UK</sup>  
katsuyuki seto<sup>JP</sup>  
Kazuya Nagaya & Metametric<sup>JP+CA/QC</sup>  
Ken Ishii<sup>JP</sup>  
Kenji Williams<sup>US</sup>  
Kezzardrix<sup>JP</sup>  
Koki<sup>JP</sup>  
Kuniyuki<sup>JP</sup>  
MANAMI<sup>JP</sup>  
Maotik<sup>FR/QC</sup>  
Masaki Kawamura<sup>JP</sup>  
Monolake<sup>DE</sup>  
Mother Tereco<sup>JP</sup>  
Myriam Bleau<sup>CA/QC</sup>  
Nicolas Bernier<sup>CA/QC</sup>  
Nonotak<sup>JP+FR</sup>  
Nosaj Thing & Daito Manabe<sup>US+JP</sup>  
Patti Schmidt<sup>CA/QC</sup>

Qosmo<sup>JP</sup>  
Rival Consoles<sup>UK</sup>  
Shigeo / Fake Eyes Production<sup>JP</sup>  
Taichi Kawahira<sup>JP</sup>  
Tetsuya Komuro & Akira Wakita<sup>JP</sup>  
TAEJI Sawal<sup>JP</sup>  
Woulg & Push 1 stop<sup>CA/QC</sup>  
Takuto Usami<sup>JP</sup>  
Tetsuya Mizuguchi / Rez Infinite<sup>JP</sup>  
toe on net / REFLECTION<sup>JP</sup>  
Vincent Lemieux<sup>CA/QC</sup>  
Yasuhiro Hoshino<sup>JP</sup>  
Young Juvenile Youth<sup>JP</sup>  
Yoshinori Sunahara<sup>JP</sup>  
Yuseok Bak<sup>KR</sup>  
100LDK<sup>JP</sup>

Miraikan ARTS COUNCIL TOKYO ticket+GAINO RED BULL MUSIC FESTIVAL 2017



*Interpolate – Push1Stop & Woulg*



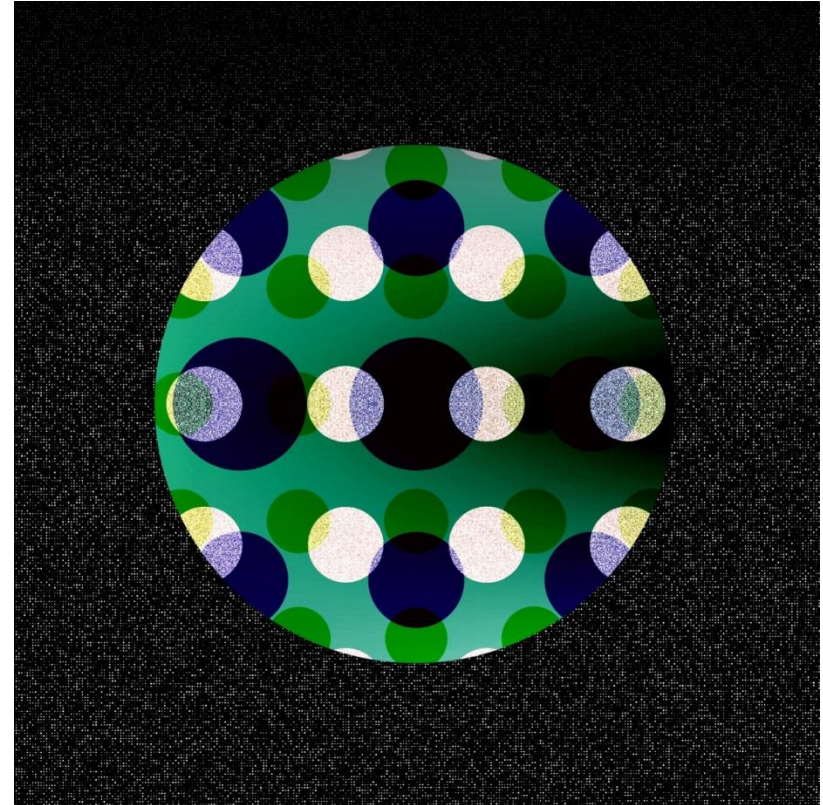
*Hyperform - Maotik*



*Collaboration with a media artist and a sound artist  
(3D/2D projection)*



*Synichi Yamamoto Intercity-Express*



*Noesis*

Put on your 3D glasses  
please

# The future of Fulldome is

- Collaborations with partners outside of the Fulldome industry
- New/Experimental usage of the Dome