

Art and Science convergence at Kavli IPMU

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Aya Tsuboi, Kavli IPMU
aya.tsuboi@ipmu.jp

Agenda

- Kavli IPMU?
- Why Art and Science?
- The Plan
- Artist in Residence in KIPMU overview
- The Artist
- Programs
- Reactions
- Conclusion/challenges

Kavli IPMU ?

How does the universe begin?



Why do we exist?

What the universe is made of?

Does the universe have the end?

credit:NASA, STScI

“reveal the origin of the universe by, Physics, Mathematics and Astronomy”

mainly Theorists/Mathematicians (basic science)

Kavli IPMU PIs



Hitoshi Murayama
Director
Particle theory,
Cosmology



Hiroaki Aihara
High energy physics



Yoichiro Suzuki
Neutrino physics,
Particle astrophysics



Alexey Bondal
Mathematics



Kunio Inoue
Neutrino physics



Takaaki Kajita
Neutrino physics,
Particle astrophysics



Stavros Katsanevas
Neutrino physics,
Particle astrophysics



Toshivuki Kobayashi
Mathematics



Taketoshi Kobno
Mathematics



Masayuki Nakahata
Neutrino physics,
Particle astrophysics



Mihoko Nojiri
Particle theory



Ken'ichi Nomoto
Astronomy



Hiroshi Ooguri
String theory



Kyoji Saito
Mathematics



Henry Sobel
Neutrino physics,
Particle astrophysics



David Spergel
Cosmology



Naoshi Sugiyama
Cosmology



Tsutomu Yanagida
Particle theory

why Art & Science ?

pure Science



visualisation

(Philosophical)
Idea

ex) Cezanne

Design

pure
Art

“Art
&
Science”

Da Vinci

Technology

Method

1. bring Art into Science;
two-way communication
between Scientists and Artists
2. open it to public

Artist in Residence in KIPMU

- Hosted by Kavli IPMU
- 2015/8/17 - 2015/9/11, 4Weeks
- @ Kavli IPMU Building
- target participants: Yasuo Nomura(Artist) and Kavli IPMU Researchers
- Budget: 100% by the Artist
- Output:
 - 4 programs
 - 2 exhibitions: @Univ. Tokyo Open Campus, @ a gallery at Tokyo
 - a donation painting

Artist

- Yasuo Nomura, a painter, 36 years old, lives and works in Okayama prefecture in Japan
- graduated an art univ. in Japan
- represents higher dimension which Mathematics and theoretical physics recently use in 2 dimension (pictures, etc)
- when he attended another art and science event last year, we met.

Program 0: Teatime, Seminars

- daily research and work at his office in Kavli IPMU building
- communicate with researchers at Teatime daily
- join Seminars and conference

Program 0: Teatime, Seminars





Month 0: Seminars

at his office in Kavli

- communicate with
- join Seminars and



Program 0: Teatime, Seminars



Program 1: a talk by the artist at Welcome party



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Program 1: a talk by the artist at Welcome party

- 15 participants
- researchers were interested in his works
 - mathematical topic
 - plenty of materials

Program 2: workspace visit



Program 2: workspace visit

- 10 participants
- researchers showed strong interests in his tools and working methods. lots of questions.

Program 3: a workshop for researchers “draw a landscape which is only in your mind”

- draw a landscape based on a favourite equation
- purpose :
 - an opportunity for researchers to try out how artists usually work with his hand and mind.
 - encourage researchers networking
- 1 hour program for free

Program 3: a workshop for researchers “draw a landscape which is only in your mind”



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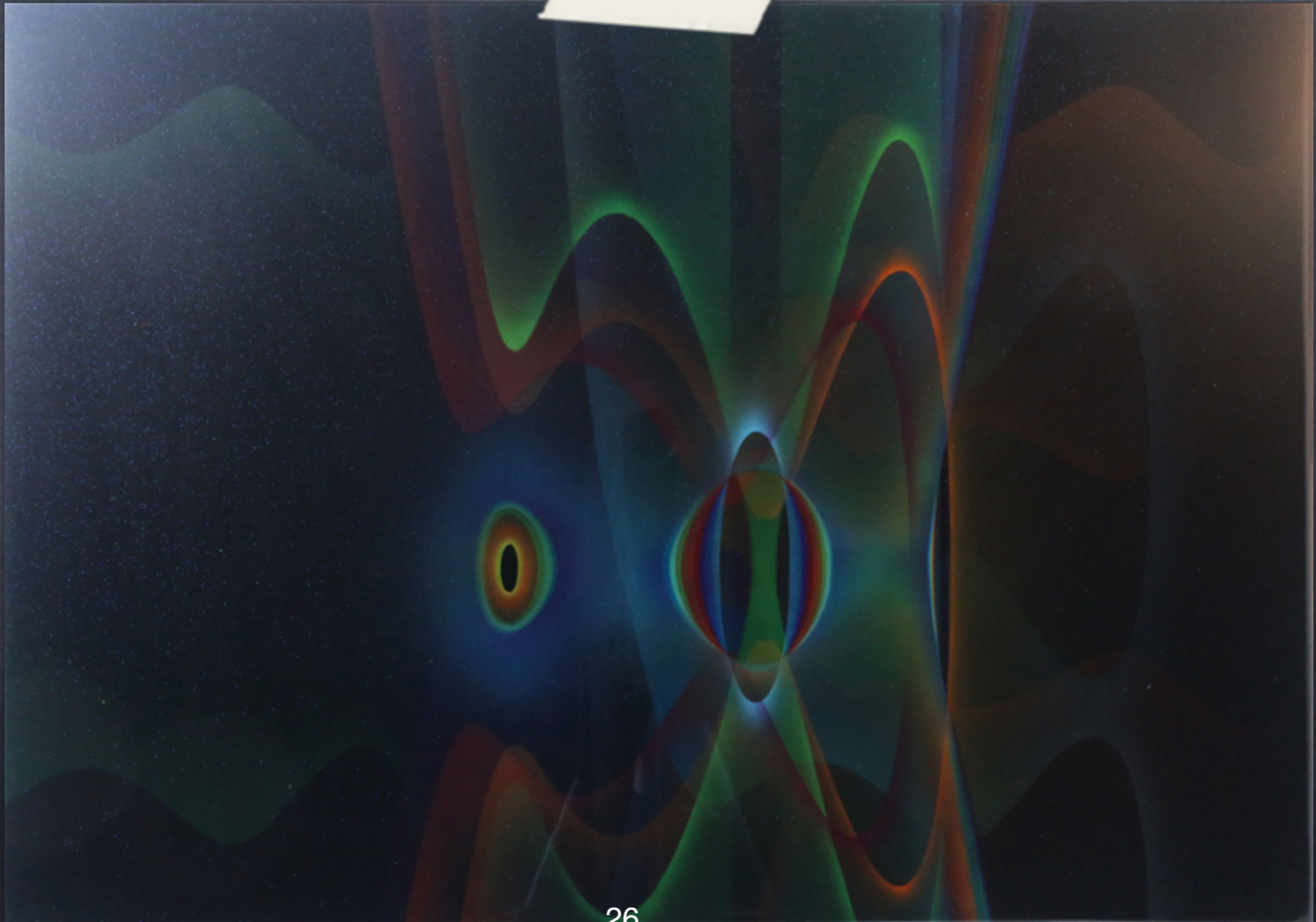
Program 3: a workshop for researchers “draw a landscape which is only in your mind”

- 5 participants
- from survey;
 - would definitely join again
 - Too short. Would have been better to allocate more time
- Was worth joining

Program 4: exhibition

- 2015/10/23 - 10/24
- @ Kavli IPMU Building
Univ. of Tokyo Kashiwa Campus open campus
- more than 3000 people visited to KIPMU for 2 days
- the exhibition was held at a room at KIPMU
- about 20 works, including drawings and acrylic paintings
- photos on a wall showing how the residence Artist spent time for 4 weeks (paid by KIPMU)
- A talk session by the artist and a researcher was held

Program 4: exhibition



Program 4: exhibition



Program 4: exhibition



Reactions: the artist

- Every day I got a new idea. Mathematics is a very specialized theme to take up, and usually people have a difficult time trying to come up with a response to my work. But here, I would get instant feedback on the ideas I come up with. It was an ideal environment for creating art work. The month went by so fast

Reactions: researchers

- He had a way of looking at prime numbers I never knew existed.
- The workshop was difficult, but it was interesting to learn a different approach to something I do every day.
- (In regards to researcher's drawings made at the workshop) it was fun to see how differently individual researchers perceive things not through equations but through drawings.
- While it might be difficult to say that art has a direct effect on research, the chance to experience doing art is rare. I agree there are some similarities between Art and Science and it is a useful experience, somehow.

Reactions: general public

- The pieces in the exhibition were marvelous.
- I felt a closer connection to Science. At first I thought it would be hard to depict science through art, but it actually made me understand it a little better.
- The fusion between mathematics and art was cool.
- Using art to express equations is such an amazing idea, it was really interesting.

Reactions: professionals

- Art professionals
 - this program has some potentials to criticise the current art world
- Communications, outreach professionals
 - it was surprised to know that this kind of outreach program is possible.
 - I found there are great possibilities for this program to introduce quite abstract knowledge such as mathematics to general public.
 - This is simply an interesting program.

Conclusion/challenges

- researchers accept the artist; artist's talent
 - share a language (mathematics)
 - concrete theme which appeal to researchers
 - communicate very much
- workshop; new media for representing researchers sense of values
- artist's method; easy to see a progress
- duration; longer or many times
- publishing; host an exhibition at central Tokyo

AIR 2016 is starting



Thank you!