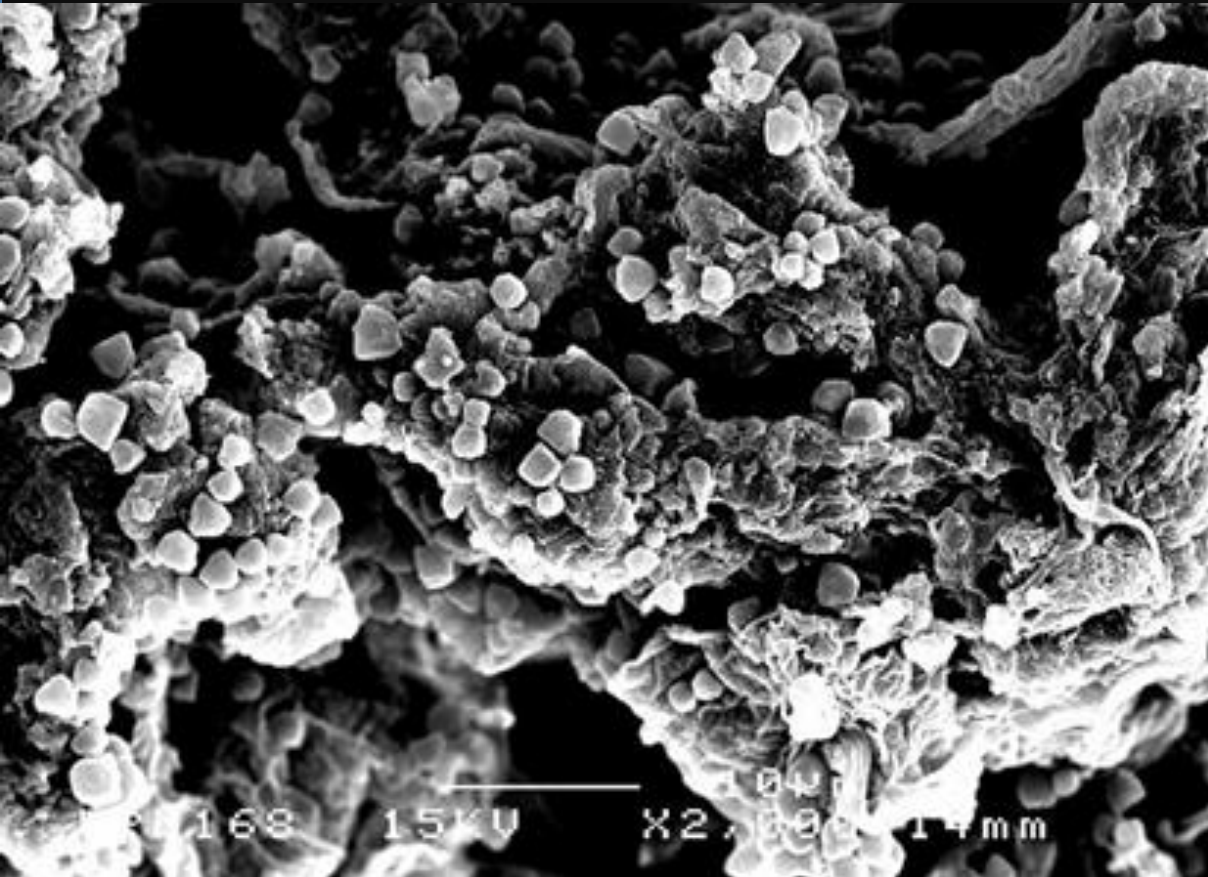


# The Convergence of Art and Science in Digital Age,

**From NYAWA Exhibition.**

...by nasir baharuddin



- This presentation tries to impose the idea of how art and science, can converge new contemporary aesthetics in the contexts of digital age, especially in Malaysian new media artscape.

By the way, this topic is not something new in this era...because in the world right now, all things had already been invented,

But someone can make a shift by looking at other disciplines  
To create a new change.....

Many new technologies in the 21st century are centered on self extension, from a prosthetic to an instagram selfie, from a locational geo-tagging device to newlife preserving medicines,

.....our lives extend both outwards into space through many different forms and also extend into time by being able to live so much longer than humans have just a century ago.

Naturally, ideas and concepts of the self are being revised in the 21st century.

a question rise about what is art and self....

what are its scientific metaphors and codes...

**...and digital age is not only about creating technologies with new gadgets and media.**

They are radically transforming basic philosophical ideas about the nature of physical world, time and space, the nature of life and intelligence, and the limits in our abilities to transform the world and humanity.

The technological is intertwined with attitude, value, culture and socio political economic environments.

Stephen Wilson, (2008)



- It reflects and compressed in our minds to stand up and face new dimension of thinking and existence to improve our social lives and make things beautiful.

“The most beautiful thing we can experience is the **mysterious**. It is the source of all true art & science”.

Albert Einstein, Physicist



Science provide an understanding of a universal experience – and art provides a universal understanding of a personal experiences...

Mae.C. James, Astronaut

so....neither science nor the arts cannot be complete without combining their separate strength.

**Science need the intuition and metaphorical power of the arts and the arts need the fresh blood of science.**

E. O Wilson, Biologist

nyawa '17

8 NOV 2017 - 30 APRIL 2018

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- Therefore, University Putra Malaysia tries to initiate a programme called **Nature Yield's and Wonders of Art Exhibition** (NYAWA or life).

...it is an annual exhibition that was start up in 2012.  
The aim is basically to represent all researchs  
discipline into the idea of representational.  
Bridging all sorts of research discovery in creating  
new dimension into space reality.

This exhibition was derived from various discipline  
of studies, where it comes from faculty of design  
and architecture, language, biotechnology,  
engineering, aqualogy, agriculture, veterinary,  
education and medical.

Objective...

To merge and intergrate artists and scientist to create an independent zone, **based from research** - intergrating critical commentary with the search for the new knowledge and the elaboration of new technical possibilities.

in addition...

A. Amplifying thought: **concept development**

B. Sharing consciousness: **collaborative processes**

C. Seeding structure: **self organizing systems**

D. Making metaphors: **knowledge navigation**

E. Constructing identities: **self creation**



**In this case, work function as a question,  
documentation,  
communication,**

Also....

As principles of one field to explore another,

As a map of a potential approach in an alternate field and perspective,

Describe process and research,

Can function as a database of ideas that enable differing people to access

An approach to particular question that science will not allow.

- Presenting NYAWA into an exhibition is the most challenging work, especially how to transmit the subject of the study into a representational setting. . .
- In fact, curating NYAWA brings an attitude that acknowledges a dialogical interaction within the mysterious wonder nature and man. It stimulates the reality of an object as element of information and the discovery of natural pattern and its behavior



- In order to intersect the dialogue and explore these two disciplines, i have to intergrate the language of an visual expresssion and the language of empirical data into a visual sign of codes – it needs to transmit information based on the culture as 'technoculture'

technoculture -

A culture as informed or defined by its technological activity, especially a culture characterized by a high level of technological development; (also) the practices, attitudes, etc., characteristic of those proficient in the use of information technology.

Oxford living Dictionaries..

**It tries to bring scientists and artists to become innovators in the development of emerging technologies.**

**By emerging the research discipline, one's can become the core of new cultural trends and industries, ... in order to demonstrate and adapt with the current pace of change.**

## **Methodology**

... in order to execute the programme,

The strategies of the programme will be structured by using 'visual and discourse' methodology where the process of information and visual data will be shaped and investigates through social production of meaning, ....

...especially by textual and the roots of the subject pertaining to the integration of art and science. The method will focus on how the interdisciplinary production of knowledge be conducted...and how the exhibition materials and the visual language can be intersect and apply.

Discourse is concerned with a critical analysis of the use of language and the reproduction of belief systems, in discourse - defined by a group of ideas or patterned way of thinking which can both be identified in textual and verbal communications and located in wider social structures.

... By adding a linguistic approach to an understanding of the relationship between language and ideology, exploring the way in which theories of reality and relations of power are encoded in such aspects as the syntax, style and rhetorical devices used in texts.

Deborah Lupton. 1992

Australian journal of public health 16(2):145-50

Here are ten work steps that will help to conduct a discourse .

1) Establish the context

*By looking at the big picture – based on text and talk.*

...find out whether the sources are responses to any contexts.

... set an open discussion,

.....slow down the ego

.....slow down the intellect,

and create as a **receiver** and reflexive mode.

## 2) Explore the production process

**looking at the** background of the research study.

**Tackle the research subject .....**

**medium** and the genre what they are are working with.

... **frame the meaning** of the actual text and any **additional features** of the medium that might contribute to or shape meaning. .

....what **genre** your source belongs to, that will later help you to get its message and production across.

### **3) Prepare the material for analysis**

Text – statement, content...

Image – the visual materials...such as photo, specimen....

Object – material form....the empirical data



#### **4) Code the material**

**Coding the data,** such as paragraphs, sentences, or individual words, pictures, symbols, links, or articles.

**coding categories.** based on the kind of question you are asking, and your knowledge of the subject matter, you will already have a few key themes in mind that you expect to find,

Write down topics that you think might be related to these key themes. These are our starting categories.

## 5) Examine the structure of the text

How to deal with one discourse....

Does it first make a counter-factual case, and make the main argument?

identify how the argument is structured: does the text go through several issues one by one? ...try to be selective.

How to visualise the text/subject into a language of presentation...

## 6) Collect and examine discursive statements

Once you have a good idea regarding of the text, you can zoom in on the individual statements, or **discourse fragments**.

A good way to do this is to collect all statements with a specific code, and to examine what they have to say on the respective discourse strand.

This collection of statements will allow you to map out what “truths” the text establishes on each major topic.

## 7) Identify cultural references

...established what the context of source material is in relation to cultural contexts.

Now think about **how the context informs the argument**. Does your material contain references to other sources, or imply knowledge of another subject matter?

What meaning does the text attribute to such other sources? Exploring these questions will help you figure out what function **intertextuality** serves in light of the overall argument.....until it achieves certain agreement.

## **8) Identify visual linguistic and representational mechanisms**

... identify how the various statements function **at the level of visual language and presentation.**

Visual features: what the subjects and objects of the visual.

Visual formation : technical and skill , object and space.

Sign and symbol : marks, an image as clue and sign as metaphor

Material and message : the presentation/production...the installation. The projection,...

**9) Interpret the data and start building a statement/presentation.**

**...: what does it all mean?**

...from your interpretation...and the structure of knowledge...

How to position on the topic you examined? and the situation.

How do their arguments draw from and commonly accepted in the place that this argument was made? .....until it achieves certain agreement.

...and the benefit from the discourse?

## 10) ... and final... the presentation

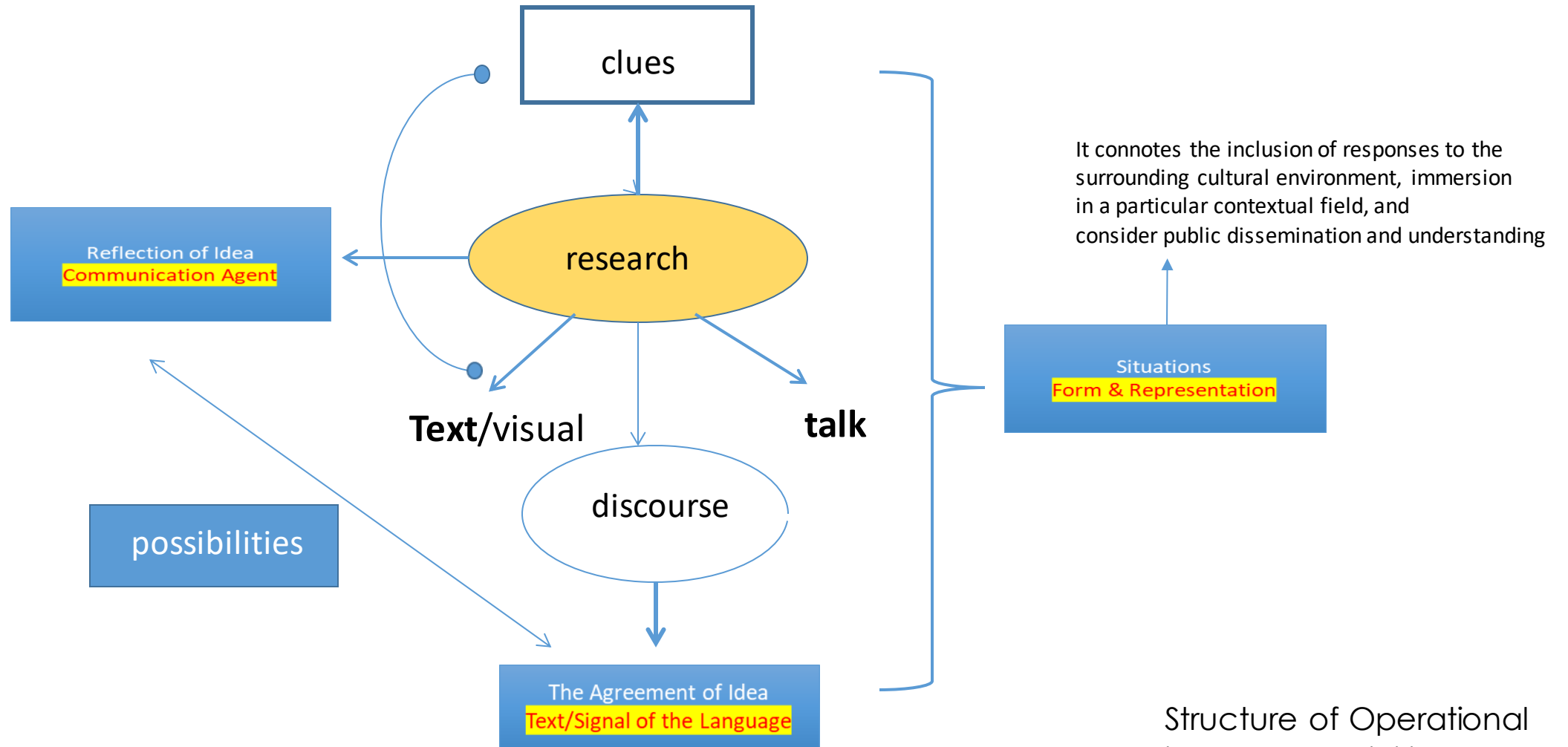
it is time to **get your results across** to your target audience.

... what is interesting about the production and the visual presentation.

... how the production reflects to the audience?

... the impact of the production and interaction?

...build a communication systems.....

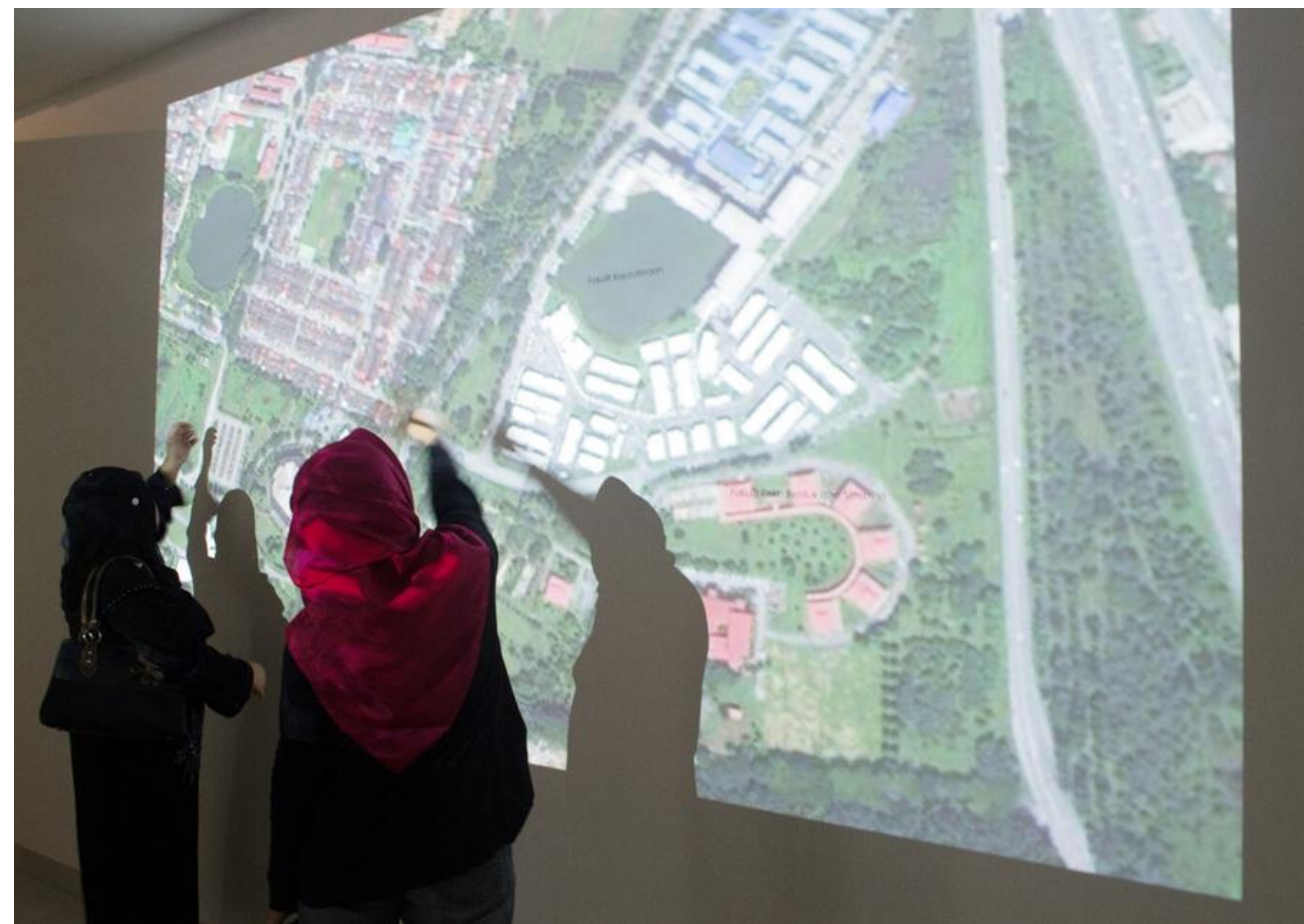


Structure of Operational  
in Nyawa Exhibition.



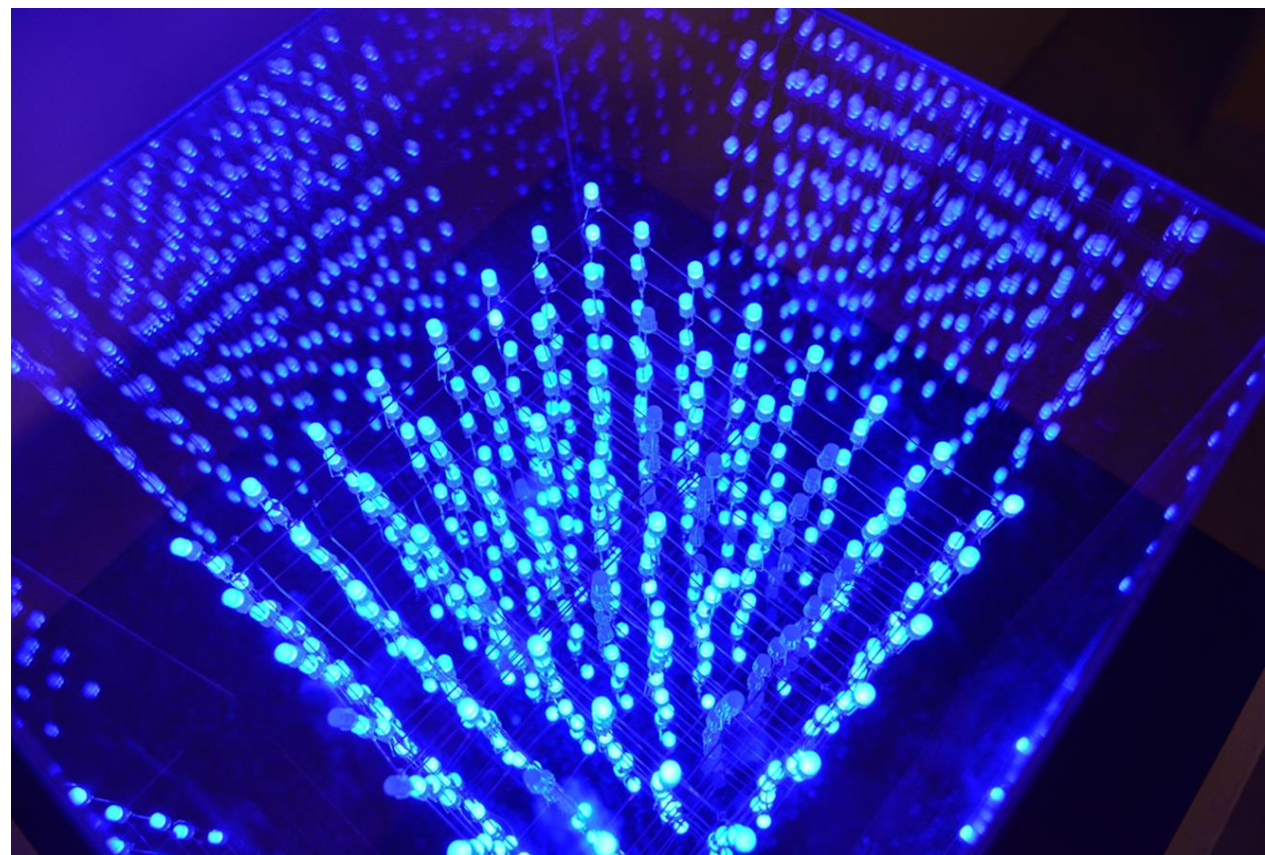
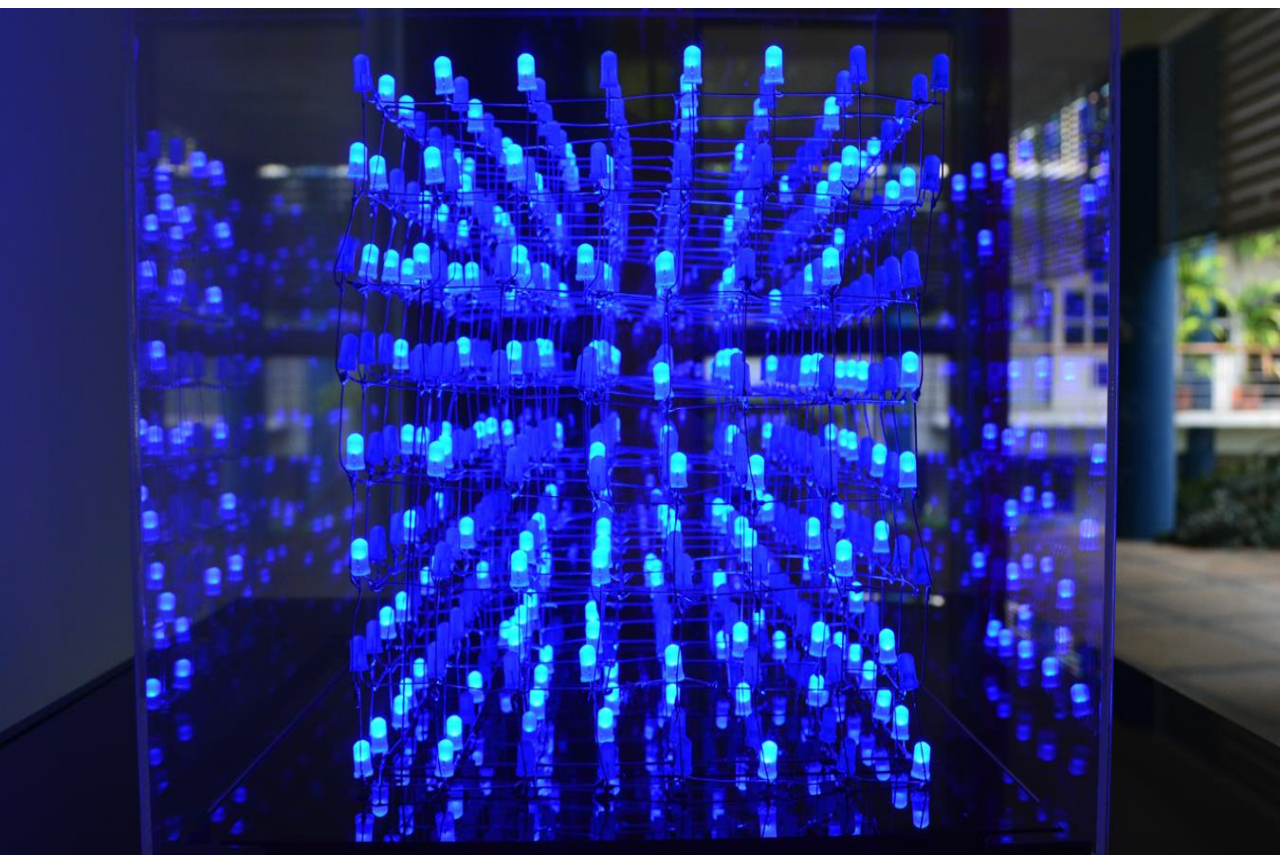


...the result – the exhibition



Nature index – interactive video censusing  
To indicate the most potential area for natural habitat.  
By using numbers and GIS.





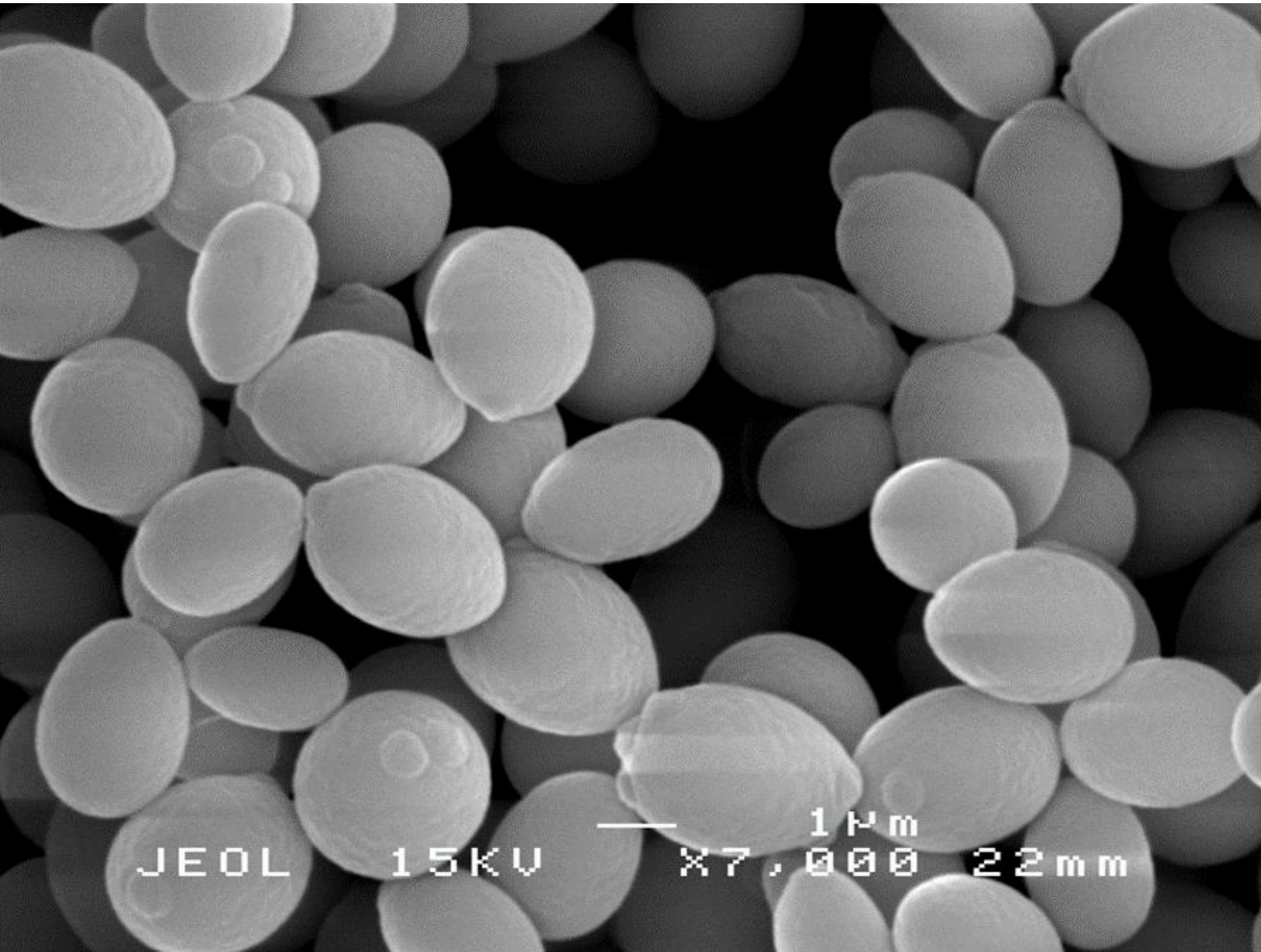
Light sound

Light wave carries information in the form of bits.  
By using LED cube travelling through space and carrying messages  
--- a musical sound to LED cube.





An installation of microbe (Culture Collections) must decide what groups of microorganism to be maintained and clearly define their accession policy. The system includes accession, preservation, maintenance, viability checking, microorganism supply and documentations.



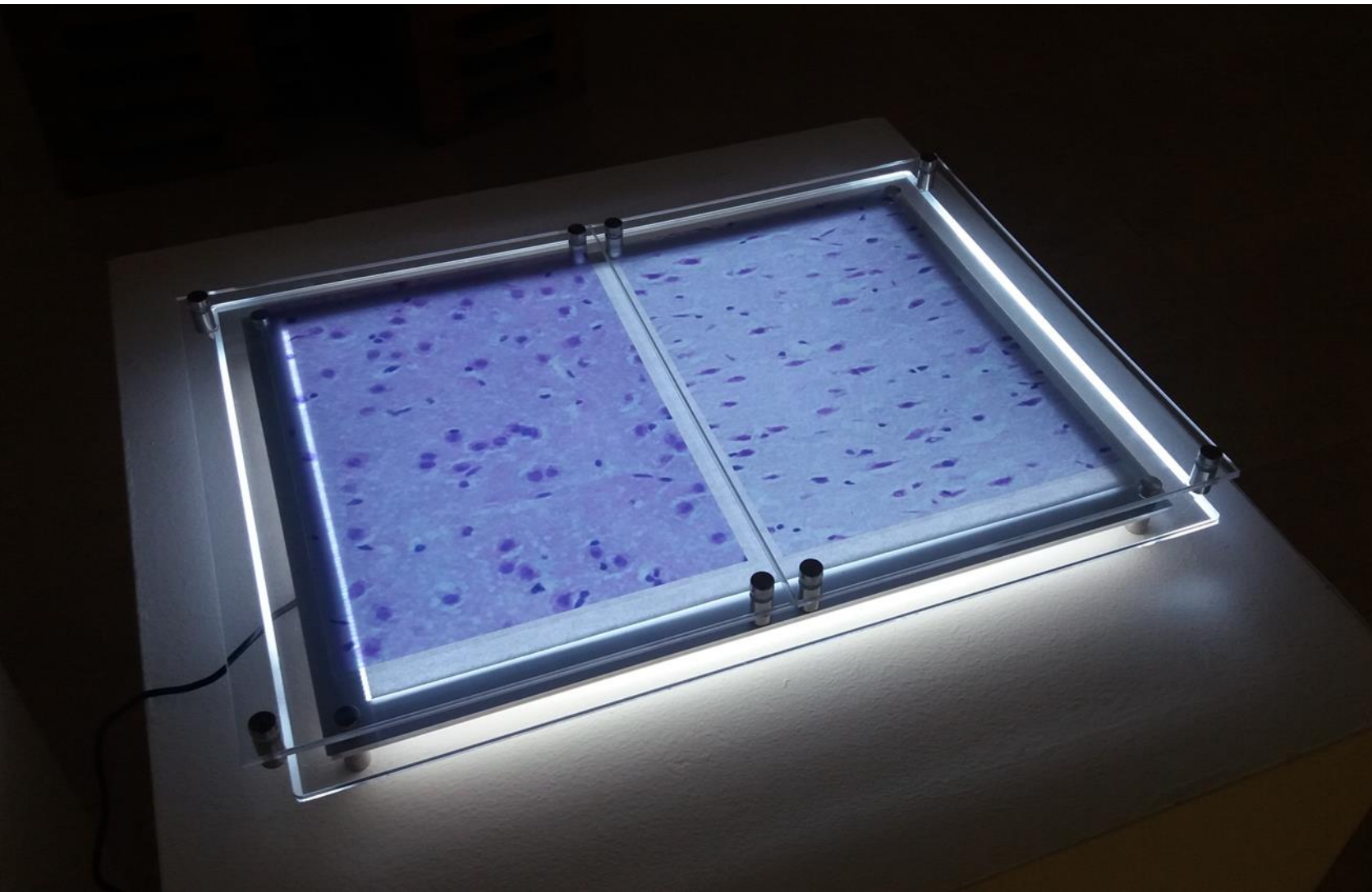
Bacteria are small single-celled organism, typically a few microns in size. They are so small that you can't see them with our naked eye and would need a microscope to enlarge them about 10,000 times before you can see properly.





## Driving Emotions

By using EEG to investigate a driver's Emotion during neutral, stress and anger state while performing formulated driving task



High brain





This video projection questions the perceptual relationship between 'word' and 'image'. It delves into the rupture of representation that demarcates the signifier of word as a morphological syntax and its signified concept for assembling meanings. Instead of celebrating word as a phonological form for speech and verbal rhetoric, the video projection renegotiates the ontological idea of image as a gestural mediality to stimulate brain and senses.





### Plant nervous system

The Venus flytrap (*Dionaea muscipula*: Droseraceae) has one of the most rapid movements in the plant kingdom. It can catch insects with its toothed modified leaves that snap shut when triggered by prey, touching the tiny hairs on the inner leaf surface.



“Dyslexia”. It is neurological in origin and primarily affects the ability to spell, read and write. Literally, it means difficulty with words. Dyslexia is usually hereditary; and it affects the sufferer’s phonological processing of strings of objects and symbols. The challenge begins at the process of decoding single words to form sounds and meanings (read) and transforming sounds into an arrangement of symbols (spell). Nevertheless, the sufferer does not have a problem with the comprehension of meaning.



## The mind's evolution

Generally, each socio-demographic group shares different thoughts and views on the green area. Their interpretation varies according to their assumption, knowledge, exposure and experience. Parents evaluate green space as a place to explore, exercise and a possibility for their kids to meet other kids. They reflect green space as a safe place for free play with a chance to enjoy the scenery for the whole family. However, in a child's brain, they see green area with fear but fun

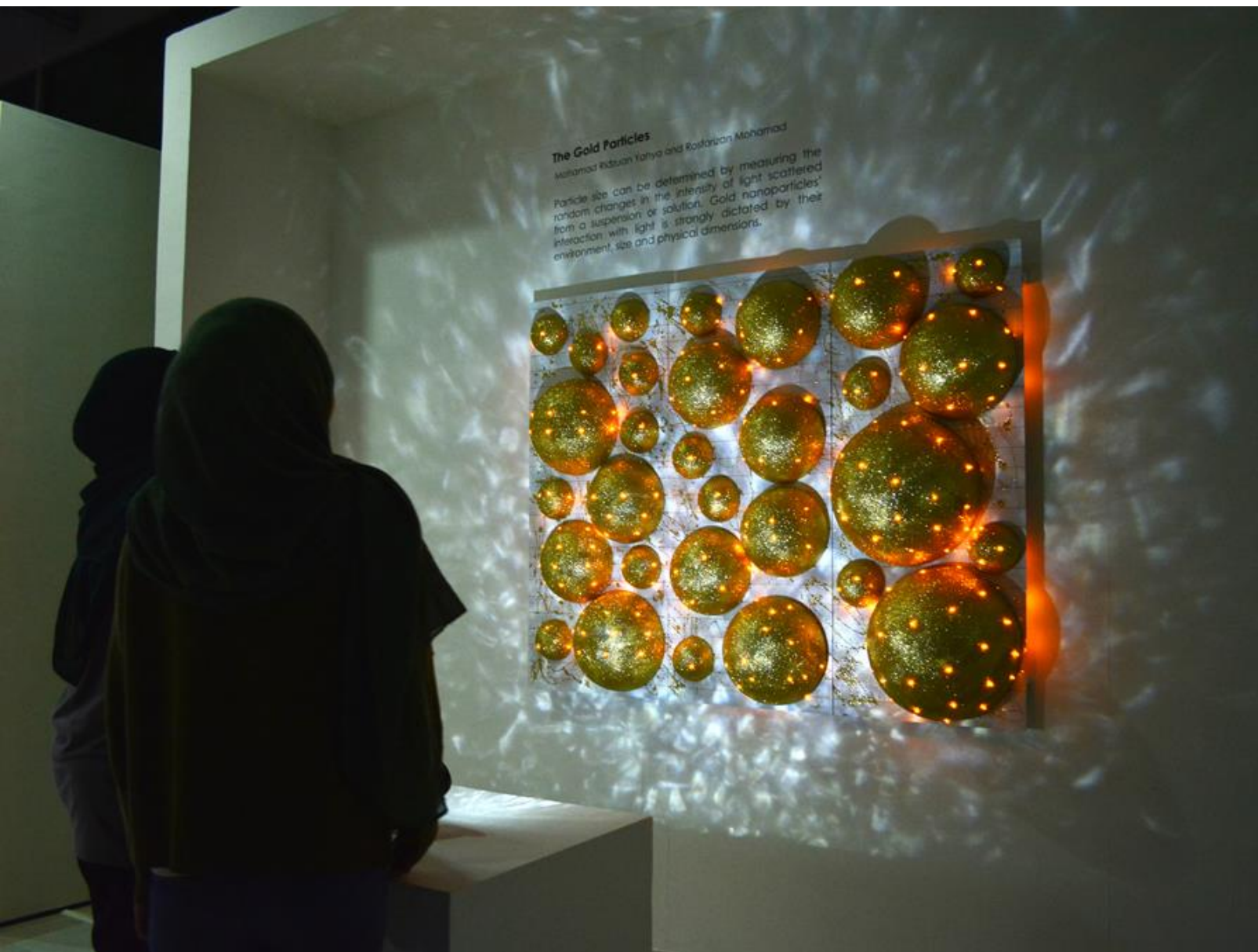




The bouncy beam

Neurons which can transmit information  
In the of electrical signals to our sense organ.

The work shows 'the jumping action of an  
electric current from one light to another



The gold particles

Light to determine of metal nanoparticle size, this metal nanoparticles application prepare new nanocrystalline materials, especially in a culture of medical device world wide



Microorganisms are able to communicate through a mechanism called quorum sensing. Quorum sensing is a system of stimuli and response correlated to population density. Quorum sensing allows bacteria to restrict the expression of specific genes to the high cell densities at which the resulting phenotypes will be most beneficial. They coordinate gene expression according to the density of their local population

Thank You