

DISCUSSIONS ON ART, TECHNOLOGY, AND SPACE SCIENCE

This volume presents a curated selection of papers and reflections derived from the INTERNATIONAL S.E.T.I. CONFERENCE 2024 - International Conference on Art, Technology, and Space Science. The conference convened a multidisciplinary assembly of scholars, researchers, and practitioners from across Indonesia, and internationally, including representatives from the United States, the Netherlands, Japan, and Singapore.

The proceedings documented in this volume reflect the intellectual vitality and discursive plurality that emerged from this international forum. The event was held through the collaborative efforts of the Doctoral Program in Cultural Studies (Art and Society) at Sanata Dharma University, Yogyakarta, and the Indonesian Space Science Society (ISSS) as part of the Indonesia UFO Festival (IUF) 2024.

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Arts and Culture

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Editors:

G. Budi Subanar, S.J.
Venzha Christ

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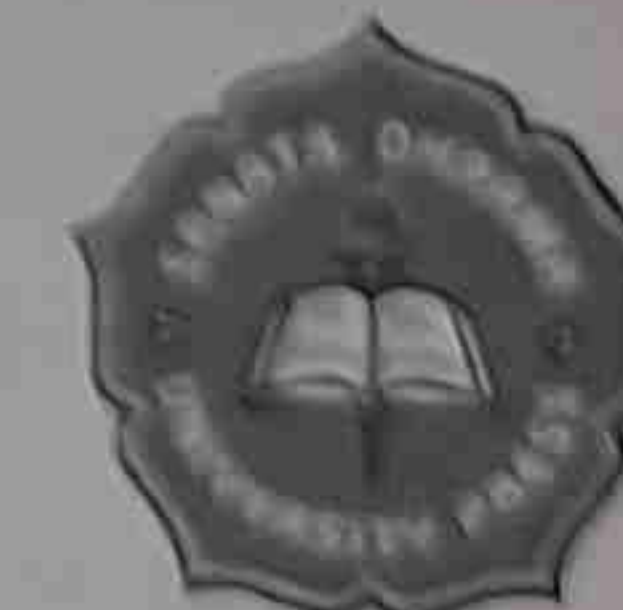
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Foreword

This volume presents a curated selection of papers and reflections derived from the INTERNATIONAL S.E.T.I. CONFERENCE 2024 – International Conference on Art, Technology, and Space Science. The conference convened a multidisciplinary assembly of scholars, researchers, and practitioners from across Indonesia and internationally, including representatives from the United States, the Netherlands, Japan, and Singapore.

Participants brought with them a broad spectrum of academic and professional backgrounds - spanning the natural sciences, technological innovation, communication studies, visual and performing arts, cultural studies, and philosophy. This diversity underscores the interdisciplinary ethos of the conference and affirms the necessity of cross-disciplinary dialogue in addressing complex contemporary questions.

In addition to academics and researchers, the conference also welcomed artists and independent scholars, including contributors from the United States, Japan, the Netherlands, Singapore, Mexico, and Germany. Their presence enriched the discourse and expanded the scope of inquiry beyond conventional academic boundaries.

While the overarching framework of the conference was organized around the intersection of art (space), science, and technology, the breadth of contributions reveals a dynamic interplay of perspectives and methodologies. This interdisciplinary structure enabled a robust engagement with the central theme of Search for Extra-Terrestrial Intelligence (SETI), viewed not merely as a scientific pursuit, but also as a cultural and philosophical inquiry.

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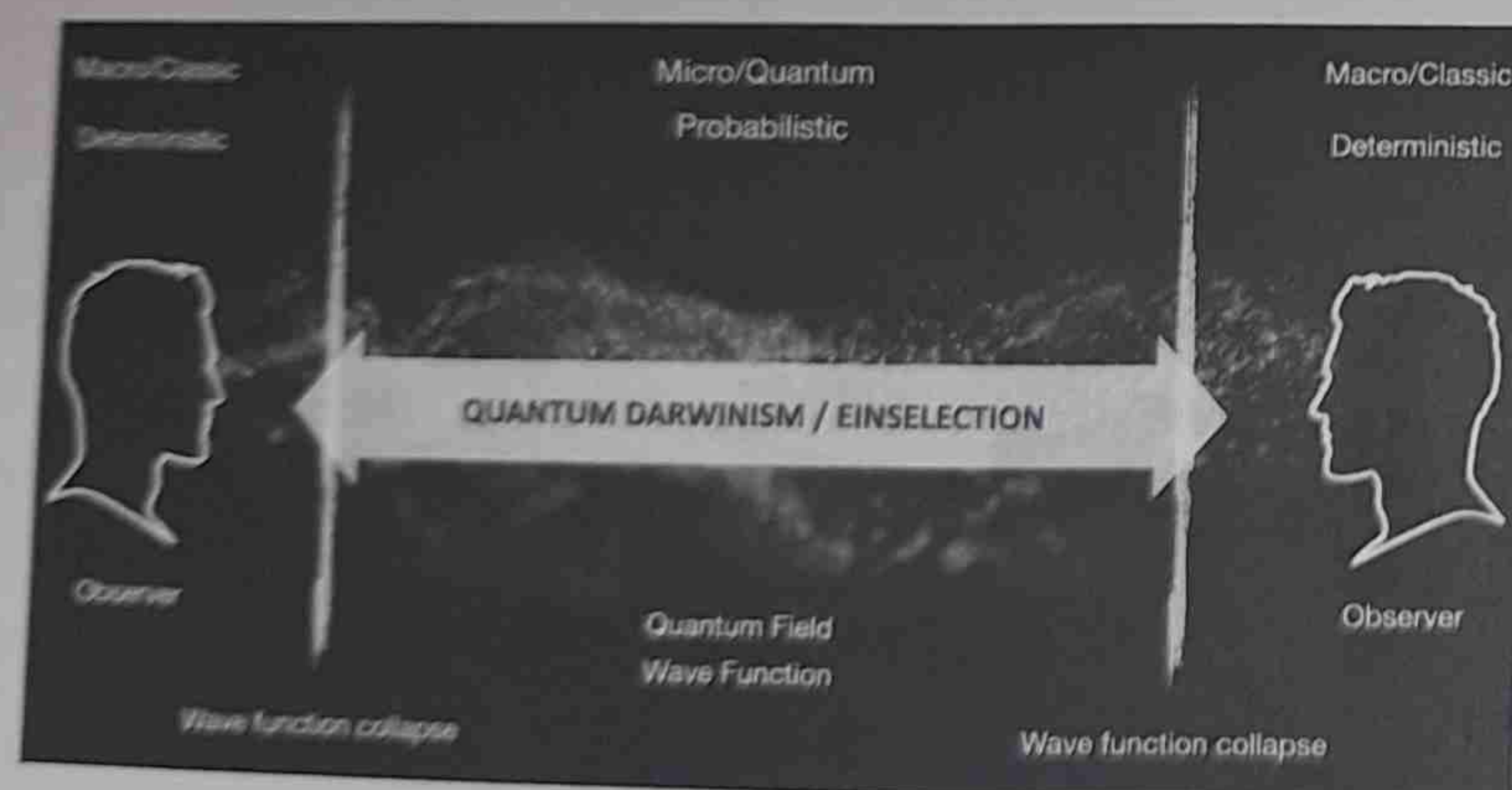
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Implication?

The transformation from probabilistic to deterministic, or from micro to macro is determined by observation. Therefore, the observer plays a crucial role in forming the reality. But whose reality? Imagine there are two observers at play here. If the forming of reality is determined by the observer, whose reality is it forming? This question may now reach out beyond Physics. Some suggest that the formation of reality fits the strongest consciousness among the observers.

Quantum Consensus?

How can consciousness be coherent among multiple observers and help select information from the quantum world? This is called a **consensus**. The fittest information is when a consensus is reached between the observers at play. Information survives because two observers agree with its meaning. Quantum entanglement does not understand the meaning of the information. However, the observers do.



Closure

There is no closure to this topic until someone from the Science Community can produce a better explanation and accept it. Until then, we can only speculate and use the best of what our minds can offer for the most reasonable explanation. People will continue to propose solutions, debate them, debunk them, and then improve them again. This is how progress is being made.

The Plausible (Possibility) Art Project for the Outer Space Being

G. Budi Subanar*

I will start my speech or explanation based on my personal experiences. It is not from the area of space science studies. This subject is out of my competence. Instead, I speak based on my capacity, it starts from the area of cultural and religious studies.

Experience 1 – In the first year Doctorate Program of Cultural Studies on Art and Society at Sanata Dharma University, I joined a team teaching on the subject of “Science Art and Technology”. My involvement is an incidental one, since the official lecturer had just passed away. He was an expert on physics. Actually, he had prepared on the subject. As an alternative, a professor in psychology and I then took over the subject. We discussed the subject based on various references.

My students consisted of various background lecturers on art and technology, a curator and fresh-graduate students from art critics and cultural studies.

The aims of the subject are a) introducing those three areas of science, art technology, b) their limitations, c) points of similarities and dissimilarities and d) researches as intermediary of the three¹.

Our class started with discussions on various art projects which are executed based on research in the various areas: visual arts, sculpture, telecommunication, etc. Generally, the art projects are combinations of the artists concerned, technological based tools, and on the contextual

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Stephen Wilson, Information Arts. Intersection of Art, Science, Technology, Cambridge – London, The MIT Press, 2002

problems. It includes wide areas of sciences: biology, environment, technics, etc. The extra-terrestrial project is never mentioned.

Prior to the discussions, we were convinced of the traditional consideration that art is a meaning making: through beauty and harmony – disharmony. As a matter of fact, on the art projects we had discussed, we found that there are processes where the artistic project of the artists, finally, it reach into a process of de-esteticalization of art. Art is not the only reason of *l'art pour l'art*. Art also becomes commitments, communication, critics, alarm, etc.

On the other side, as technology as means of prolongation of the body, technics, etc., the art project showed that there are processes where technology has become not a functional anymore. Desain is not for utility, etc. In short, there is a process of technology de-functionalization.

Then, at the end of the course, it was clear that this subject became an *unfinished subject* in various areas. Besides, the extra-terrestrial project is never mentioned.

Experience 2 - I joined an Experimental Art Project. Actually, at the Graduate Program on Cultural Studies of Sanata Dharma University, we have a joint project, a collaboration program on music with the Graduate Program of Yogyakarta Institute of Art. Last year, we celebrated 40 years of Voyager (KOMPAS, Oktober 2017). The Orchestra of Institut Seni Indonesia (ISI) Yogyakarta performed Joseph Sebastian Bach, while the gamelan orchestra of Sanata Dharma students' performed *Ketawang Purnomo Sidhi* arranged by Ki Tjokrowasito. Those creations of the two composers are part of the beauty of the world music which is transmitted on the Voyager. According to the confession of Ki Tjokrowasito, the aim of this project is to give an opportunity for the outer space being to hear, enjoy, and appreciate those beautiful worldly music².

On the world music principle, the traditional gamelan principle which consist of two system *Pelog* and *Slendro* become understandable by the international music system on its tones³. While the content of those

² Tim Msskarja, Elo Elo Endi Buktine. *Seabad Empu Karawitan Ki Tjokrowasito*, Yogyakarta, Penerbit Magister Ilmu Religi dan Budaya, 2004
³ Sumarsam, *Gamelan Cultural Interaction and Musical Development in Central Java*, Chicago – London, The University of Chicago Press, 1992

gamelan lyrics and tones are based from the local stories and instruments. Shortly, *Ketawang Purnomo Sidhi* and various others are results of the creative process of the composer creating compositions based from myth, magic to music. Therefore, the *Ketawang Purnomo Sidhi* which was transmitted from Voyager became a meaning making space (science) based on research and language expression of the Javanese expertise (Mpu) Ki Tjokrowasito.

3. Outer space – references of the mysticus (?) Based on the two experiences, here is a discussion issue which I want to propose. An outer space issue is a very special discussion. There are a very few people who are involved in it. Galileo Galilei was an exceptional one. He created a Copernican revolution. On the religious discussion, the ideas become a special arena for the Sufis and Tasawuf, and the mysticus. A fage, ambigues, unrealistic situation. There are some special expressions to refer to the stage, the place: *cloud of unknowing*, *awang-uwung*, etc.

One of the recent utility programs is the cloud digital program which has become a very trendy program to save various archives of artists, scholars, and other professionals and students as well. It is very useful though the place, system are there, out of touch. The term cloud reminds me of John the Cross, a Spanish mysticus from the XVI century. His famous book is "*The Cloud of Unknowing*". A dark experience in worldly daily prayer in a relation with the almighty, then, he put it into the Cloud of Unknowing. Is there any possibility to put side by side, of a realization of the world communication created by persons of the world, then, they put it into the cloud of unknowing – which is materialized as cloud digital program?

Is there any relation and similar principles of the two? We can discuss it in various perspectives. As *SangHyang Kamahayanikan* proposed a structure on *Kayya - Wak - Citta* a triangle of word – material – ideas⁴. The intuitive perspective proposed by John the Cross, then, was realized by the creator of cloud digital programs through algoritma system of the creator. What a genius realization.

⁴ SangHyang Kamahayanikan, 1978

There is also Teilhard de Chardin, a French Jesuit paleontologist as well as theologian who propose an intuitive methodology⁵. He is a paleontologist by academic training. Doing various research on excavations in the world of paleontology. He found that the fossils were spread to various places in divergent forms. Thereafter, after a certain period then the fossils become a convergence form. As the principle energy of creation, then, there is a central point of the initial universal energy which is called Alfa. Thereafter, there is a central point as the culmination of the creation. It becomes the center of unification of all the creation. It is called Omega.

In the one side, Tielhard de Chardin was an expertise on paleontology. On the other side, he jumped on conclusion, leaved aside his expertise on paleontology. His methodology is named as an intuitive methodology. His intellectual discourse created an argument – from *geo-genesis* through *bio-genesis* and *homo-genesis*. On the *noosfir period*, it reached the culmination on Alpha and Omega, which means as Christ who initiates on the creation as Alfa, then its redemption after the previous one.

As well as John the Cross, Tielhard becomes a mysticus with a very special horizon. Their vision becomes a mystical horizon which invites a long process of involvement. While Teilhard started from the material one –fossils- then, journey to the mystical horizon, John the Cross vision was based on experience on communication then refers to the Cloud of unknowing as point of reference. The creator of the digital cloud technology system refers to the system as a point of reference to save the product or media of communication.

How to realize the active persons of various involvement can be explained to the concept of the body and the existence of every person in various conditions. Those are: mystical body – being against the body – being through the body – being in the body – being with the body⁶. Who are we – where are we – how question (process) or why question (reason to the existence)?

⁵ Robert J O'Connell, *Teilhard's Vision of The Past The Making of a Method*, New York, Fordham University Press, 1982

⁶ Scott Kugle, *Sufis and Saints' Body Mysticism, Corporeality, and Sacre Power in Islam*, Chapel Hill, The University of North Carolina Press, 2007, hal. 1-26

Southeast Asia's Path to Mars: ISSS's Vision for Space Science and Community Engagement

Venzha Christ*

Introduction

The Indonesia Space Science Society (ISSS) is a platform dedicated to advancing knowledge and innovation in astronomy, space exploration, and related sciences. Established in 2015, ISSS bridges the gap between scientific research and public engagement, fostering accessibility and inclusivity in the Southeast Asian space science landscape. As humanity moves closer to interplanetary expansion, particularly with Mars colonization efforts, Southeast Asia must position itself within the global space race.



VMARS - 1:100 Mars Analogue Research Station, a project by ISSS - Indonesia Space Science Society, the first Mars Analogue Research Station in Southeast Asia, 1982 and Venzha Christ, 2020

This article explores ISSS's efforts to elevate Southeast Asia's presence in the global space sector. Programs like VMARS, the International SETI Conference, and Kampung Alien serve as key initiatives that address regional challenges while fostering collaboration among communities, researchers, and governments. Additionally, this paper discusses the role

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Editor's Biography

G. Budi Subanar, S.J.

He is a lecturer in the Master of Religious and Cultural Sciences Program at Sanata Dharma University, Yogyakarta. He joined the Society of Jesus in 1982. He studied Philosophy at the Driyarkara College of Philosophy, Jakarta, and Theology at the Wedabhakti Faculty of Theology, Sanata Dharma University, Yogyakarta. After receiving priestly ordination in 1994, he continued his studies at the Gregorian University, Rome. Since 2001, he has been a lecturer at the Wedabhakti Faculty of Theology, and the Master of Religious and Cultural Sciences Program, Sanata Dharma University, Yogyakarta. His books include *The Local Church in the Light of the Missionary Doctrine Magisterium, A Case: The Archdiocese of Semarang-Indonesia (1940-1981)*, Gregorian University Press, Rome, 2001; *Soegija Si Anak Bethlehem van Java, Biography of Mgr. Albertus Soegijapranata, SJ*, Kanisius, Yogyakarta, 2003; *Revolutionary Testimony of a Bishop in Wartime, Diary of Mgr. A. Soegijapranata, SJ 13 February 1947-17 August 1949*, Galang Press, Yogyakarta, 2003. *Towards a Free Church: History of the Archdiocese of Semarang Under Two Bishops (1940-1981)*, Sanata Dharma University Publisher, Yogyakarta 2005. *Shadow of the History of the City of Education, Sanata Dharma University Publisher, Yogyakarta (2007)*. *Dancing in Terra Incognita*, Kanisius Publisher (2009). *A Glimpse of the Story of Mgr. Soegijapranata, Yogyakarta, 2012: Sanata Dharma University Press*. *Soegija, Child of Bethlehem Van Java Biography of Mgr. Albertus Soegijapranata, SJ. The First Indonesian Bishop, (translated) Yogyakarta, 2012: Sanata Dharma University Press*. *The Disappearance of My Home Page, Yogyakarta, 2013, Sanata Dharma University Press*.

Venzha Christ

Space Artist and Director of ISSS - Indonesia Space Science Society

Venzha Christ is the founder of **HONF** Foundation, **v.u.f.o.c** lab, **ISSS** - Indonesia Space Science Society, International **SETI** (Search for Extra-Terrestrial Intelligence) Conference, **Indonesia UFO Festival**, **Kampung Alien**, and **VMARS** (v.u.f.o.c Mars Analogue Research Station).

Collaborate with artists, scientists, astronomers, astrophysicist, and engineers in Indonesia, he has established the ISSS as a framework for the exploration of space from a different perspective.

Providing a compelling encounter with space through its focus on Space Science and Space Exploration research, and active to produce within more than forty collaboration projects included institutions, space agencies, observatories, and universities in this field worldwide such as **NASA**, **VIRAC**, **OCA**, **LAM**, **NARIT**, **JAXA**, **CEOU**, **SCASS**, **KARI**, **SpaceX**, **SETI**, **CSC**, **CPPM**, **IRAM**, **CERN**, **KEK**, **ELSI**, **CNES**, etc.

Since 2000, Venzha collaboration projects was presented to ISEA, Transmediale, Pixelache, Istanbul Biennale, NASA project, FBI, Mediacity Seoul, Ogaki Biennale, IAMAS, SETI, Mal Au Pixel, Future Everything, YCAM, Art Science Museum Singapore, Bangkok Biennale, Yokohama Triennale, Sharjah Art Foundation, Performance Studies Space Programme, and many more.

The Recent projects include: **MARS: The Red Mirror Project (2023-2024)**, **Indonesia UFO Festival - IUF (2022-present)**, **VMARS** - v.u.f.o.c Mars Analogue Research Station (2020-present), **SHIRASE** - Simulation of Human Isolation Research for Antarctica-based Space Engineering (2019), **MDRS** - Mars Desert Research Station (2018), Resident Researcher at **IMeRA** - Institute for Advanced Study (2017), and the exhibition of **NASA** - A Human Adventure (2016).

Project such as **Kampung Alien** is essentially an open-air natural laboratory for the development and study of Astronomy, Space Science and Space Exploration in a rural, organic setting that is integrated with the village community and forms an ecosystem that directly involves the

grassroots, bridging the gap in technological information and innovation movements.

Through these projects, the ISSS attempts to uncover space as a continuous source of inspiration that compels practitioners from all disciplines to understand the universe we are within, using both tools and ideas of space science and of art.

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