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Dive into a floating ocean city of the future at ArtScience Museum

ArtScientist-in-Residence Cesar Jung-Harada will showcase groundbreaking technological inventions that tackle climate change

Singapore (5 September 2024) – Amidst the storm of climate concerns, ArtScience Museum invites visitors to envision a hopeful future where humanity has ingeniously adapted to environmental changes. Opening on 21 September, *Cesar Jung-Harada: An Ocean City Imagined* will present life-sized models of groundbreaking technologies that harness the power of the world's oceans, offering renewable and sustainable solutions to the climate crisis.

Curated and produced by ArtScience Museum, this exhibition brings together a decade of research and innovation by inaugural ArtScientist-in-Residence, Cesar Jung-Harada — a Singapore-based French-Japanese designer, environmentalist, educator and entrepreneur. Jung-Harada's practice is deeply rooted in ocean research and collaboration with coastal communities, as he works towards a sustainable design future that harmonises nature, cultural history, and technology. His diverse projects range from piloting wind-powered robots which aided the clean-up of the Deepwater Horizon oil spill in the Gulf of Mexico, to researching biodiversity impacts of radioactive leaks in Fukushima.



Visitors might notice familiar landmarks and neighbouring countries such as Malaysia and Indonesia amidst this hyperconnected aquatic supercity



In *An Ocean City Imagined,* his concepts manifest as large-scale installations anchored by *International Ocean Station* – a bold speculative blueprint of a floating city based off Singapore and its surrounding geography. Inspired by the International Space Station, this future city features a network of habitable floating scientific research and development centres, designed to foster international collaboration on ocean-powered solutions. As sea levels rise dramatically, this innovative city would also provide housing for communities displaced by climate change, supporting their daily needs.

Visitors will be able to navigate through the floating installation, viewing the essential infrastructure as seen from both above and below the surface.

The *International Ocean Station* is accompanied by two other crucial elements of this future ocean city: *Ocean Solar Hydrogen* – which serves as a clean energy generator that may power future ocean cities, and *Ocean Train* – an inventive mode of sea transport.



Large-scale installations of two other ongoing projects by Cesar Jung-Harada – Ocean Train and Ocean Solar Hydrogen – will be presented at the exhibition

Ocean Solar Hydrogen seeks to protect natural ecosystems by transitioning coastal communities from fossil-based fuel to clean renewable energy. Designed to float on the surface of the water, solar panels power an electrolyser that extracts hydrogen gas from seawater, which is then stored in aluminium balloons to be transported for various uses. Serving as both an energy generator and energy store, this innovative technology has the potential to harness the planet's most abundant natural resources – the sun and the ocean – to power cities.

Ocean Train envisions a future where sea transport is modular, expandable and energy-efficient. It hopes to improve the efficiency of global shipping, taking inspiration from the physics of land trains to feature a snake-like body of multiple boats, connected like train carriages. This radical design aims to reduce the energy needed for maritime transport as only the first boat needs to overcome wind and water resistance.

"We are incredibly proud to present Cesar's visionary work, which pushes the boundaries of scientific advancement in ocean technology. Through this exhibition, we aim to offer visitors a new perspective on climate change, one that amid the backdrop of environmental crises, encourages us to envision an optimistic future. Instead of merely focusing on existing solutions,



we invite visitors to explore creative ways to adapt meaningfully for the future," said Adrian George, Director of Programmes, Exhibitions & Museum Services at ArtScience Museum at Marina Bay Sands.

"I moved to Singapore two years ago and have been impressed by how well the country is planned. However, most people still think of global warming and rising sea levels as a problem in the distant future, but it is happening now, and it is changing everyone's life deeply. Without a courageous effort of the imagination, humans cannot fathom the scale of what is happening. Through this presentation of *An Ocean City Imagined* at ArtScience Museum, I hope people will not only be touched by how beautiful and challenging that future can be, but also dream and work towards creating their own stories," said Jung-Harada.

An Ocean City Imagined serves as a closing showcase for Jung-Harada's term as ArtScience Museum's inaugural ArtScientist-in-Residence. Launched in 2023, the ArtScience Residency supports local and international creatives, climate activists, artists, designers, and entrepreneurs through a collaborative platform that cultivates their future-forward practices. Since kickstarting the residency in April 2023, Jung-Harada has collaborated with coastal communities in Indonesia and the Philippines, while running educational and public programmes at the Museum which have engaged diverse communities from all walks of life.

The exhibition will be complemented by a slate of programmes featuring conversations, storytelling sessions and hands-on activities which allow visitors to engage further with Jung-Harada and reflect on a hopeful future that can be achieved through the creative integration of art, science, design, engineering, ecological research, and entrepreneurship.

Additionally, *An Ocean City Imagined* is a part of ArtScience Museum's *Ocean Tech Week*, which explores the future of oceans and sets the course for a sustainable and thriving world. Visitors can look forward to discovering groundbreaking ocean innovation and conservation through a variety of offerings including film programmes, talks, and workshops.

For more information on *Cesar Jung-Harada: An Ocean City Imagined*, please visit https://www.marinabaysands.com/museum/exhibitions/an-ocean-city-imagined.html. The exhibition will run from 21 September to 27 October 2024.

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About Marina Bay Sands Pte Ltd

Marina Bay Sands is Asia's leading business, leisure and entertainment destination. The integrated resort features Singapore's largest hotel with approximately 1,850 luxurious rooms and suites, crowned by the spectacular Sands SkyPark and iconic infinity pool. Its stunning architecture and compelling programming, including state-of-the-art convention and exhibition facilities, Asia's best luxury shopping mall, world-class dining and entertainment, as well as cutting-edge exhibitions at ArtScience Museum, have transformed the country's skyline and tourism landscape since it opened in 2010.



Marina Bay Sands is dedicated to being a good corporate citizen to serve its people, communities and environment. As one of the largest players in hospitality, it employs more than 11,500 Team Members across the property. It drives social impact through its community engagement programme, Sands Cares, and leads environmental stewardship through its global sustainability programme, Sands ECO360.

For more information, please visit www.marinabaysands.com

About ArtScience Museum

ArtScience Museum is a major cultural institution in Singapore that explores the intersection between art, science, technology and culture. It is the cultural component of Marina Bay Sands. Since its opening in February 2011, ArtScience Museum has staged large-scale exhibitions by some of the world's major artists, including Leonardo da Vinci, M.C. Escher, Salvador Dalí, Andy Warhol and Vincent Van Gogh, as well as exhibitions that explore aspects of science and technology – including particle physics, big data, robotics, palaeontology, marine biology and space science. For more information, please visit www.marinabaysands.com/museum.html

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For hi-res images, please click here. (Credit as indicated in the captions)



Appendix I - Cesar Jung-Harada Bio



ArtScientist-In-Residence Cesar Jung-Harada is a Singapore-based French-Japanese designer, environmentalist, educator and entrepreneur. With ongoing research and development into renewable energy sources and environmentally sustainable sea transport, he regularly delivers workshops for organisations such as the World Wildlife Fund and National Geographic and has delivered keynotes at international conferences by the United Nations, Harvard University and TED. Jung-Harada is currently Associate Professor of Design at the Singapore Institute of Technology and a candidate Ph.D. in Design and Ocean Innovation at the National Conservatory of Arts and Crafts (Conservatoire national des arts et métiers) (France).

As part of his ArtScience Residency which began in April 2023, Jung-Harada has been researching and developing renewable energy sources and environmentally sustainable sea transport to address the climate crisis. He proposes renewable and sustainable solutions to the climate crisis that are fueled by speculative design and formalised with scientific research. Covering 70% of the Earth's surface, the oceans are a life-giving force, and for Jung-Harada, the key to an ecologically balanced and resilient future.