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# sustainable japan

German superstar Peter Gruss leads ‘extraordinary’ OIST in Okinawa

## New technologies, pure science made in paradise

**Name: Peter Gruss**  
**Title: President & CEO, Okinawa Institute of Science and Technology**  
**URL: [www.oist.jp](http://www.oist.jp)**  
**Hometown: Hessen, Germany**  
**Years in Japan: 5**

### Leaders & Readers

**TIMOTHY SCHULTZ**  
CONTRIBUTING WRITER

On the main island of Okinawa, a little-known graduate university has quietly become one of Japan's most innovative institutions. To find it, fly south until you get to paradise, then hook a left. You will arrive at a small cluster of modern buildings looking over the sea. Walk the grounds, and you will notice many of the professors are young and more than half are non-Japanese. Ask a few people what they are working on, and over the sound of the waves you will hear the future being read to you, one discovery at a time. The Okinawa Institute of Science and Technology (OIST) isn't what most people expect. That is exactly what its president



During annual conferences, Peter Gruss always encourages students to be curious as an approach for life. HIROMICHI MATONO

and CEO, Peter Gruss, was looking for before he joined.

Gruss is a tall, blue-eyed German gentleman, the kind of man who skied throughout his 60s and still whistles up mountain trails. He came to OIST five years ago, after a superstar career in research and administration, where he became Germany's most prominent and celebrated science administrator. Imagine if an ambitious Japanese movie studio convinced a semi-retired Steven Spielberg to be their CEO; that is what his arrival must have felt like at OIST.

Gruss was attracted to OIST by three rare factors: ample government funding, independent oversight and a commitment to cutting-edge research. "What matters to the top minds is working near other great minds being supported by what I call 'high-trust funding,'" OIST has that," he said. This is the research funding model that Gruss had championed at the Max Planck Society, which he ran for 12 years. "It is the opposite of grant-based funding. Instead, candidates are evaluated based on what they have done so far. It allows us to identify great scientists, and help them do the extraordinary."

At OIST, extraordinary results have followed, and Gruss is exuberant about his new home. "It is a wonderful, young university that has grown in recognition in the past 10 years. OIST is now the No. 1 research university in Japan, and one of the top three in the world." He qualifies the statement in simple terms. "Of course, the overall impact of places such as Tokyo University or Caltech are much higher. But think of our tiny size. Normalize the publications by the number of professors, and you'll see the difference." Gruss was talking about scientific

publication, and the citations each publication receives; ground-breaking papers are frequently cited by peers, while unexciting papers are simply ignored. "If you want to evaluate the quality of a scientist, you can [evaluate] the impact of their publications by the number of citations. By this measure, the overall Japanese grant-funding is the least efficient among the G20. Sadly, it means that this government funds mediocre research." Gruss tutted, and shook his head. "OIST is quality over quantity. That is the key for success!"

As the leader of OIST, Gruss lobbies for change at the highest levels of government and corporate leadership. His first message: Publicly funded research is not optional, but necessary. "Look at the numbers. The U.S. commits about 0.9% of its GDP to research (including the government sources and private foundations), Germany 1%, Japan pays only 0.6%." His second message: This research is not a subsidy. It is an investment, one that must be carefully made, and in younger scientists. "In Germany, we reward smart young researchers with high-trust, five-year research plans," he said. "These are researchers who are around 35 years old, and their title is often 'assistant professor.' Mind you, they are doing their own research! But in many Japanese universities, the assistant professor... is actually the *assistant to the professor*!" Gruss threw his hands in the air with frustration. "When did many Nobel laureates do their Nobel Prize experiments? In many cases they were under 42. The brightest young Japanese scientists are losing this opportunity!"

While he is a passionate advocate for change in Japan, his real eloquence is



HIROMICHI MATONO

reserved for the research done at OIST. The institute does enable tech transfer, but takes pride in doing more theoretical work, where researchers solve problems that are only just emerging, or find new uses for barely understood technologies.

He touched on computing: "We call it 'post-quantum cryptography.' A quantum computer will be able to break any currently available mathematical code. So if we don't understand how to deal with this now, before the first quantum computer is available, then we will be in a very bad place."

Later he shifted to genetics. "It is the combination of big data and AI that will change everything. AI will be able to take the entire population's genetics — down to the molecules — and compare them to the health outcomes of each person. This will finally give us an understanding of polygenic traits — traits controlled by more than one gene, and by more than one chemical affecting those genes. This is only 10 years away." And don't get Gruss started on stem cells, which fall under his own scientific expertise. "For some time now, scientists have been able

### Prolific scientist, top administrator

Peter Gruss grew up in Hessen, the rural heartland state of Germany. He began his academic career as a doctoral candidate at the German Cancer Research Center in Heidelberg, where he earned his Ph.D. studying oncoviruses. He continued his research in the U.S. at the National Cancer Institute in the National Institutes of Health, then returned to Germany in 1982 to join the University of Heidelberg's Institute of Microbiology.

In addition to being one of the most productive scientists in his field, he was offered the directorship of Molecular Cell Biology Department of the Max Planck Institute for Biophysical Chemistry, one of the most prestigious research institutes for basic science in Germany, and left University of Heidelberg. He gave up his own research in 2002 when he was elected president of the entire Max Planck Society responsible for 86 Max Planck institutes.

Whenever he can enjoy some down time, Gruss likes to go for a swim and snorkel five minutes away from OIST at a place he considers to be the best in Okinawa.

to grow organoids — very simple brains, or any organs — from the cells of any part of a human body. Now these are getting more complex! Soon you will be able to test drugs against entire human structures!" With Gruss at the helm, OIST is exploring all of these areas and more.

It was the end of our meeting, and Gruss had barely touched on the many discoveries being made in Okinawa under his guidance. "No other generation has lived at a time like this, with the amount of dramatic change that is coming. There will be upheaval in every way that makes us human, from anti-aging to CRISPR therapies to quantum computing." Looking back, it could have been a chilling statement. But coming from Peter Gruss, it sounded downright cheerful.

## Times Gallery



Kanagawa Deputy Gov. Kenji Shuto (second from left), Ambassador of India Sanjay Kumar Verma (center) and Brook's Holdings Co. Ltd. CEO Hiroko Ogawa (left) at the main ceremony for the "Incredible India Fair 2022" held at Me-Byo Valley Biotope on May 1. BROOK'S HOLDINGS CO. LTD.



Hungarian professor Katalin Kariko, recipient of the Japan Prize for her invention of the mRNA vaccine, speaks with Japanese and foreign media at the Embassy of Hungary on April 14. © MACIEJ KOMOROWSKI



The vice president of the Plurinational State of Bolivia, David Choquehuanca, sends a message to protect our Pachamama (Mother Earth) to Japanese youths on International Mother Earth Day, April 22. EMBASSY OF BOLIVIA



The president of the Society of Wives of Arab Ambassadors, Bahrain's Maryam Alsowaidi (fourth from right), hosted first lady Yuko Kishida (left of her) and Yuko Hayashi (right of her), wife of the foreign minister, at a luncheon. Other SWAA members are Palestinian Maali Siam, Lebanon's Nancy Nameh, Tunisia's Houda Elloumi, Kuwait's Manal Alsharif and Oman's Aisha Albarumi. MIKI OOSHITA



The Norway-Japan Sustainable Ocean Fest 2022 at the Enoshima Yacht Harbor, supported by Kanagawa Prefecture, focused on ocean pollution and the need for action in science and business. EMBASSY OF NORWAY



Cuban Ambassador Miguel A. Ramirez meets with Japanese engineer and researcher Taro Yoshida, an honorary member of the Association of Agricultural and Forestry Technicians of Cuba. EMBASSY OF CUBA



Jamaican Ambassador Shorna-Kay Richards and Japanese reporter Chris Matsumura wear Jamaican colors as he interviews her for the program "Saturday is Colorful!!" on Tokyo MX TV. EMBASSY OF JAMAICA



At Norway, Switzerland and Keidanren's event on transition finance, Norwegian Charge d'Affaires Line Aune (center), Swiss Ambassador Andreas Baum (third from right), METI Deputy-Director General Shinichi Kihara (fourth from right), JFE Steel's Hiroyuki Tezuka (third from left) and the Development Bank of Japan's Keisuke Takegahara (second from left). © AYAKO SUZUKI FOR THE SWISS EMBASSY

## Ricoh seeks to lead changes in society with ‘three loves’

### Unraveling Japanese companies

**TOMOKO KAICHI**  
CONTRIBUTING WRITER

The Ricoh group, whose operations cover about 200 countries and territories, is working to graduate from an office automation equipment maker and convert itself into a digital services company. Leading the effort is President Yoshinori Yamashita, who believes it is important to resolve social issues through business activities and "for all of our employees to have the awareness that they should lead changes in our society."

Ricoh bases its corporate activities on the "spirit of three loves," principles formulated by founder Kiyoshi Ichimura in 1946: "Love your neighbor," "Love your country" and "Love your work." Based on these principles, which are compatible with the U.N. sustainable development goals to no one behind, the company identified seven important social issues in the two areas of "resolving social issues through business" and "strengthening the robust management structure" supporting that, and set 17 environmental, social and governance goals.

Ricoh calls its ESG (environmental, social and governance) goals the "future financial goals" with an aim to "build the financial position in five years and a decade," according to Yamashita. They are also management goals, not just financial goals, he said. In fact, Ricoh's ESG activities are increasingly becoming a key factor for especially European customers to decide to purchase its products. In Japan, the company's advanced initiatives can

sometimes prove useful in making proposals to customers and serve as a trigger for dialogue and engagement.

Ricoh has a long history of tackling environmental issues. The company established an environmental promotion section in 1976 and came up

with the concept of sustainable environmental management, in which environmental conservation and profit generation are pursued at the same time, in 1998. In 1994, it came up with the "comet circle," a concept to help establish a circular society. The ratio of components recycled in Ricoh's multifunction printers increased to more than 96 percent, while the ratio of those ending up in landfills decreased to 4 percent or lower.

Since he became Ricoh's president in 2017, Yamashita "has re-accelerated the practice of the spirit of three loves," he said. As part of this effort, he has prioritized the disclosure of nonfinancial information to stakeholders and dialogue with them. Twenty days after he took the post, Ricoh joined the RE100, an international initiative encouraging businesses to transition to 100% renewable electricity, becoming the first Japanese company to do so. Yamashita said he was confident the company will be able to raise the ratio of renewable electricity to 50% by 2030. In 2019, Ricoh joined Business for Inclusive Growth (B4IG), an international initiative aimed at promoting diversity in workplaces and supply chains, becoming the only Asian founding member. It has worked to eliminate the digital divide. Yamashita has worked to get views of Japanese and Asians to be reflected in the process of establishing international ESG rules.

Ricoh's vision for the 100th anniversary of its foundation in 2036 is "Fulfillment through Work." "We hope to help create



Yoshinori Yamashita, president and chief executive officer of Ricoh Co., Ltd. THE JAPAN TIMES

a society in which people at work can be focused on creative work and feel joy" by helping improve the efficiency of the workflow through Ricoh's digital services, Yamashita said.

In that sense, the company's efforts on SDGs and ESG are also essential for helping employees find fulfillment through work, he said. In an internal

survey, to which 83% of Ricoh's employees responded, 98% of the respondents said they felt their work had a bearing on SDGs. "We hope to create workplaces in which all employees can have confidence and feel fulfilled at work," Yamashita said. Ricoh's transformation into a company that leads changes in society, in which employees who share the spirit of the three loves take active roles, is just around the corner.

**RICOH**

**NAONORI KIMURA**  
INDUSTRIAL GROWTH PLATFORM INC. (IGPI) PARTNER



Visionary leadership: Executives establish grand visions and goals, which are carried out with everybody participating. Ricoh has practiced the ideal style of business management, which may seem obvious but is actually very difficult, for many years. A flexible organizational capability that can respond quickly to major changes in the market plus strong leadership to guide it are at the root of Ricoh's corporate culture.

This section highlights the environment and a sustainable society. For more information please visit [www.sustainable.japantimes.com](http://www.sustainable.japantimes.com)

