



# Tracking OIST's Journey from Peter's Desk

2017-2022



非ニュートン流体の複雑な流れ  
Complex Flowing of Non-Newtonian Fluid



シロアリ  
Termite Weapons



人工細胞が示す内部流動  
Synthetic Cells Exhibit an Internal Flow



ナギサアナダコの子  
An Octopus Incubella Juvenile



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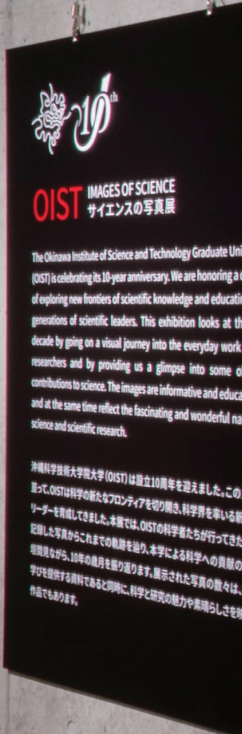
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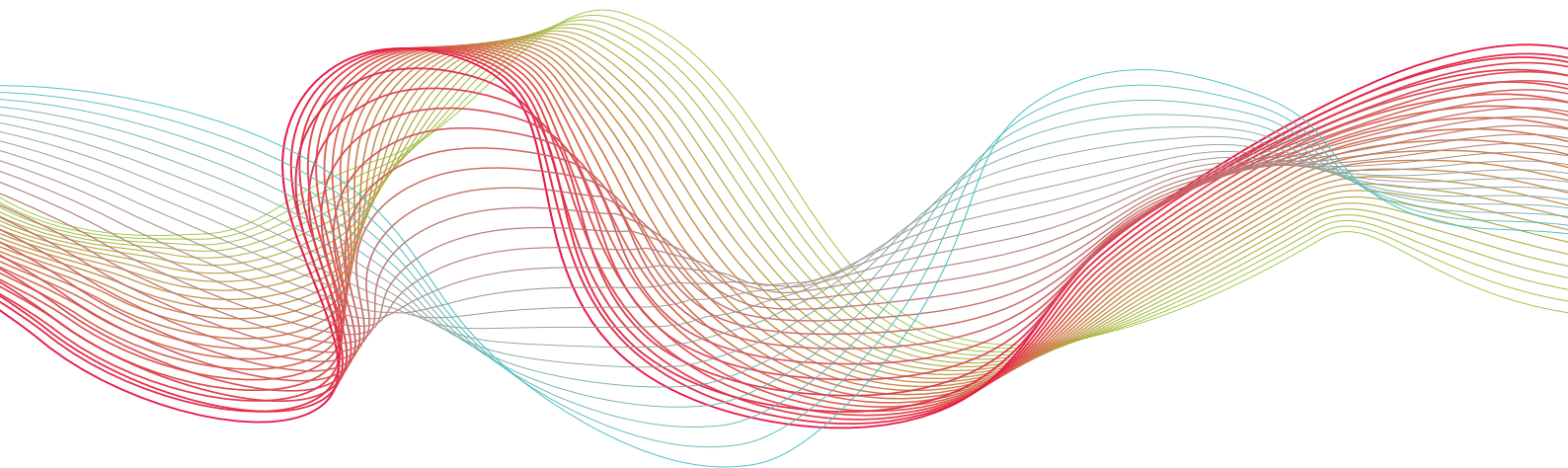
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# THE HARMONY OF OIST



I have found myself reflecting after six years on what has made my experience at OIST so unique. Perhaps inspired by the wonderful concert during the OIST 10-year celebrations, or the magical performance on Yo-Yo Ma's 'Day of Action' where we explored the intersection of art and science. I have come to see our work as resembling a joint musical composition.

OIST is a young research institution with a bold mission to join the best in the world. It is home to talented people from all over the globe, united by one language and the pursuit of world-class research, education and innovation. It is a modern university for outstanding research, a place to educate young scientists to become future leaders worldwide, and a promising platform to raise the visibility of Okinawa as an intellectual and scientific hub in Southeast Asia. We are aware of the need to deliver further benefits to Okinawa and Japan's innovation ecosystem, as we continue to increase our number of faculty, young researchers and graduate students. Our newly established incubator and accelerator facilities are attractive to entrepre-

neurs from OIST and all over the world, while a cross-disciplinary approach supports our work towards the advancement of knowledge for the benefit of humanity.

Musical harmony involves bridging different voices and instruments, just as creating an institution involves bridging between the various components – research, education, community, society, government and more. Over the last six years, together, our score has had structure, rhythm, melody, and expressions combined with striking chords, cadence, key signatures, and a significant rate of change.

Together, we have formed an entire orchestra, with our ensemble of soloists, who have listened and played with conviction and talent to interpret this score. This has involved taking in the sounds from colleagues and at times, artistic direction, to liberate and enliven our musical concept in harmony, making this performance and orchestra truly unique.

Our university structure promotes harmony between scientific disciplines, from the application of techniques that solve scientific

challenges, to the absence of departmental barriers. Even the university campus promotes harmony with nature, designed with laboratory buildings on top of hills overlooking the ocean, connected by a network of bridges. It is designed to maximize interactivity between administration and laboratory disciplines, accommodating the work of physicists, biologists, chemists, computer scientists, mathematicians, and engineers.

At times, there have been challenges to resolve which path to take, from chromatic to harmonic progression and back. Even some percussion has been necessary to take our musical sounds to new heights. But I firmly believe, throughout the creative process of cooperation and competition in science, some of the most ingenious and original discoveries are made. This is the path, set out by our founders, that we follow together.

In the following pages, I invite you to join me in an overview of the journey so far. This will also illustrate the principles that I have used to guide OIST in building excellence, to deliver on its potential and realize its vision.



Everything achieved in the past six years has been the result of a team effort, an institutional and even a societal success. Let's take as an example our achievements in research, where we are ranked in the top ten worldwide, taking account of our size. This success depends upon many factors such as the presence of great minds, be it faculty, researchers, or students. Professional research support staff, technical experts, effective management, and efficient, dedicated administrative support. Outstanding research infrastructure, sufficient resources, and an open, welcoming environment. A scientific culture that encourages innovation and enterprise, which gives brilliant scientists freedom to pursue the research that they consider the most promising or important.

There are other critical factors that will enable us to reach our goals, but trust needs to be earned and built through cooperation and

engagement over the years. The support of government at all levels (local, prefectural, national) and of the wider society is crucial. We need society to continue to put their trust in us. A local community that welcomes us as resident members and a partner. Industry and businesses must continue to take an interest in our research and cooperate to bring results from the lab to society. Support and private funding continue to be important. We also need the experience and dedication of many others who sit on our Boards and Committees, and who offer advice and encouragement.

Guiding our outstanding and committed colleagues and partners on this beautiful island, I am grateful for the engagement of our university and wider community. I also want to thank the many people who have made critical contributions along the way, our community at OIST and across the globe, our past and current members of our

Boards of Governors and Councilors and our partners in Japan and around the world.

I would like to recognize the vision and investment in OIST by the Japanese government as an innovation project, to nurture fundamental research and transform society. Thank you for your continuous support, which enables OIST to realize its mission for decades to come.

As President of this university and CEO of the school corporation, I hope during my tenure I have laid the foundations for the way ahead, to enable OIST to become a world-leading research university and a destination and partner of choice for all who wish to contribute to the advancement of knowledge for the benefit of humanity.

**Peter Gruss**  
Okinawa, December 31, 2022

Note: "From Peter's Desk" is a personal column through which President Peter Gruss has shared his thoughts and activities of the previous few weeks with the internal community. It is meant to provide an insight into his work and to enable OISTers to connect with issues that impact OIST on a local, national, and global scale.

[For further information on our institutional success, milestones and work of the last six years, you can also visit my presentation to the Board of Governors in September 2022.](#)



## HIGH TRUST FUNDING

A key enabler of OIST's research impact has always been our high trust funding model. This is where core institution funding is allocated to individual research units for five years.

During my time at OIST, I have advocated for the benefits of this method of funding. Crucially it enables researchers to respond quickly to new opportunities and be limited only by their creativity, this encourages and supports cutting-edge research and rapid innovation. Research excellence

is built from hiring the best and giving individual researchers the freedom to pursue the research program that they consider the most important or most interesting. All of our researchers are still highly encouraged to apply for additional external grants to extend their research portfolio and to build external collaborations.

This funding model is particularly important and attractive for early career researchers, who can find it difficult to compete for competitive research grants against more established researchers. Limited only by creativity, high trust funding supports people-by enabling individual researchers to use their judgment to rapidly respond to existing,

emerging and future challenges.

High trust funding comes with less administrative burden but higher trust in the individual. This trust is supported and high quality maintained through performance review against rigorous global benchmarks by an internationally renowned team of experts, only then are recommendations made for the five-year funding period ahead.

I truly believe that a higher level of high trust funding in the research funding system, as part of a healthy mix of block funding and competitive project funding, will give Japanese universities the fuel necessary to maximize their potential.

## INTRODUCING THE INTERNATIONAL HIGH-LEVEL PERSPECTIVE COUNCIL

At the start of my tenure, in 2017, I introduced the Perspective Council to advise us in developing our research program and scientific growth. Four of the six external Council members are Nobel laureates in Chemistry, Physics, and Physiology or Medicine. I would like to thank our internal and external panels of scientists who

have drawn upon experience from their eminent careers and extensive networks to forecast the scientific opportunities for OIST to realize its mission.

Building upon the work of the Perspective Council, we have implemented priority areas for faculty hiring and developed the first ten-year Strategic Plan for OIST.

The strategic plan was strongly endorsed by a distinguished External Peer Review Panel in 2019, made up of four former leaders of world-leading research universities, two Nobel laureates, four former Scientific Directors of internationally distinguished research institutes, and two Vice-Presidents of top universities.

"Quality should always take precedent over strategy. Recruitment of the right individuals will greatly benefit OIST, regardless of research area. Funding should be granted to people rather than projects."



Professor Steven Chu (Stanford University), 1997 Nobel laureate in Physics, former U.S. Secretary of Energy, Chair of the Perspective Council 2017

"Trajectory to success more than clear, substantial growth is needed to be competitive in the global education market. We applaud the realistic assessment of the budget requirements."



Professor Dr. Olaf Kübler, former president of ETH Zurich, Chair of the External Peer Review Panel 2019

**R**esearch excellence is a cornerstone of the three pillars of the OIST mission. Although our orchestra continues to grow at pace, we are still currently a small ensemble on the world stage. Despite our size, we have been able to achieve some remarkable results for a young university. When normalized for size, OIST ranked first in Japan and in the top 10 globally for the quality of research publications in the natural sciences in the Nature Index 2019. These results are very encouraging, they demonstrate that our faculty in collaboration with international experts have continued to recruit highly qualified new colleagues to our research community, while at the same time maintaining the high quality and output of their research.

## EXPANDING ACADEMIC NETWORK

Together in pursuit of our goal to become a world-leading university, we have been able to rapidly recruit in scientific areas according to the Perspective Council's recommendations. Through hard work and our achievements, OIST has a growing presence on the world stage and is attracting some of the world's top talent to enhance our research capability. Primarily driven by our eminent faculty, we continue to grow our research collaborations, with



Facilitated discussion about effective lab management, productive team environment and inclusive mentorship in Faculty Retreat 2022

top Japanese national universities and international collaborators in America, Europe and beyond.

## SUCCESSFUL FACULTY RECRUITMENT

We have grown our faculty from 59 members in 2017, to 89 faculty in 2022. This increase in scientific expertise is boosting our community in many ways, most notably our international faculty recruitment has grown our research units by 50% and catalyzed our research output by 70%.

As we continue to grow, our strength in interdisciplinary research needs different disciplines, each in a critical mass to generate breakthroughs, tackle grand challenges and unleash further benefits for Okinawa, Japan, and the world.

Our researchers with their cross-disciplinary efforts in marine science, genomics, fisheries science, geophysics and ocean engineering will be of substantial

help in understanding and reversing damage to the Okinawan marine and terrestrial environment. Thanks to the rich and diverse nature of the marine environment around Okinawa and the dedication of OIST scientists, OIST aspires to rapidly grow into one of the world's leading marine science centers.

The global race to develop quantum computers, quantum communication and other quantum technologies is becoming intense, and has been accelerated by the COVID-19 pandemic. Against this backdrop, it is crucial to increase Japan's international competitiveness in the research and development of quantum science and technology.

At its current state, Japan has a shortage of 200,000 cybersecurity experts. With an eye on the future, we are growing our capacity for research and education in quantum cybersecurity, with our already strong quantum physics units as a springboard. We hope to apply that knowledge towards post-quantum cybersecurity, too.



A coral nursery to restore reef-building corals and marine biodiversity in Okinawa



Professor Artur Ekert pioneers quantum-proof encryption methods for perfectly secure communication

“We are immensely proud of our faculty who have been awarded coveted international prizes for the caliber of their research and the significance of their achievements. It would be impossible for me to mention all these wonderful accolades, here we celebrate some of the recent notable awards.”

We have continued to grow our research capacity in neuroscience as we anticipate this field to become an important platform for creating the AI-powered and energy-efficient robots of the future. This has been complemented by recruitment in important fields to further bolster our research strengths in life sciences, materials and chemistry, mathematics and computer science, quantum sciences, applied sciences and engineering.

It is thanks to all of you that OIST can continue to attract top science talent to our ensemble as we continue to take our scientific harmonies to new heights.

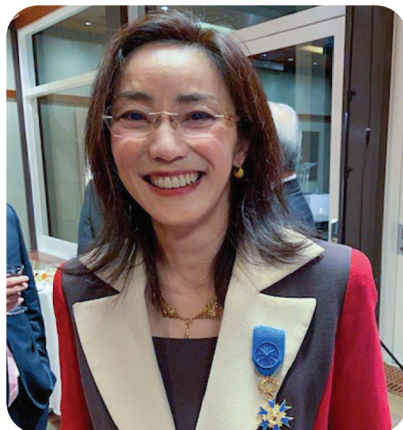
## FACULTY ACHIEVEMENTS

We are immensely proud of our OIST researchers who have been awarded coveted international prizes for the caliber of their research and the significance of their achievements. It would be impossible for me to mention all these wonderful accolades in this letter, here we celebrate some of our researchers' recent notable awards.

Professor Svante Pääbo has received not only the 2022 Nobel Prize in Physiology or Medicine for his discoveries concerning the genomes of extinct hominids and human evolution but also the Japan Prize award for pioneering contributions to paleoanthropology through decoding ancient human genome sequences.



Professor Kae Nemoto was decorated with France's National Order of Merit in recognition for her work as co-director of the Japanese-French Laboratory for Informatics (JFLI), where she has cultivated strong research ties between Japan and France.

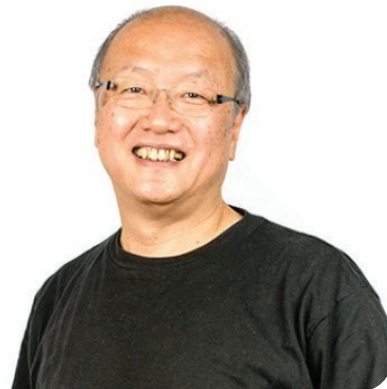


Professor Yabing Qi was elected Fellow of the Royal Society of Chemistry in 2019 and won the 2022 Kao Science Award, for contributions to the development of sustainable, green energy through his research on the surface properties of metal-halide perovskites, a promising new material for creating cheap and efficient solar cells.

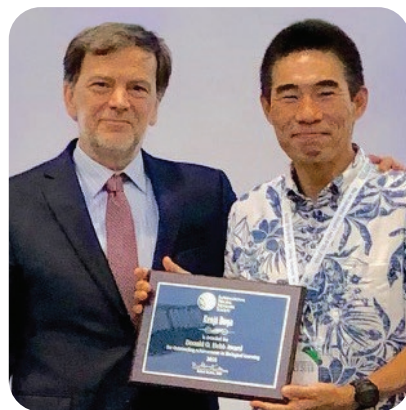


Professor Akihiro Kusumi was awarded the distinguished Avanti Award in Lipids 2020 by the Biophysical Society, for his work over the past forty years, which has helped further our understanding of

lipids in the context of cells, tissues, and whole animal physiology.



Professor Kenji Doya received the Donald O. Hebb Award from the International Neural Network Society (INNS) for his lifetime contribution to the field of neural networks.



Our Presidential Lecture series has attracted further world-leading expertise to OIST. I have invited eminent speakers such as Professor Hitoshi Murayama and among them, Nobel Prize laureates, scientific leaders of other prestigious institutions, and bright young stars in science to the university campus, where they have shared their knowledge and enriched our community.

These accolades, and many more, are testament to the caliber of our research community and represent international recognition for the contributions of our dedicated scientists as both talented soloists and members of our OIST orchestra.



# PRESIDENTIAL LECTURES

SPEAKER	AFFILIATION	TITLE OF THE TALK
<b>Dr. Hitoshi Murayama</b>	Former Director of Kavli Institute for the Physics and Mathematics of the Universe, The University of Tokyo	The Dark Side of the Universe
<b>Prof. Christiane Nusslein-Volhard</b>	1995 Nobel Prize for Medicine or Physiology	Animal Beauty: Function and Evolution of Biological Aesthetics
<b>Prof. Lakshminarayanan Mahadevan</b>	Lola England de Valpine Professor of Applied Mathematics, School of Engineering and Applied Sciences, Harvard University; Professor of Physics and Professor of Organismic and Evolutionary Biology, Harvard University	Origami - Mathematics, Science and Technology
<b>Prof. Eugene W Meyers</b>	Director, Max Planck Institute of Molecular Cell Biology and Genetics	Towards Image-Based Systems Biology
<b>Dr. Bruce Alberts</b>	Chancellor's Leadership Chair in Biochemistry & Biophysics for Science & Education, University of California, San Francisco	Science, Biology and the World's Future
<b>Prof. Klaus Mullen</b>	Director, Max Planck Institute for Polymer Research	Is the Future Black?
<b>Prof. Artur Ekert</b>	Professor of Quantum Physics at the Mathematical Institute, University of Oxford, UK; Director of the Centre for Quantum Technologies and Lee Kong Chian Centennial Professor at the National University of Singapore, Singapore	Is There a Perfect Cipher?"
<b>Prof. Douglas Soltis &amp; Prof. Pamela Soltis</b>	Douglas Soltis is a Distinguished Professor in the Florida Museum of Natural History and Department of Biology at the University of Florida Prof. Pamela Soltis is a Distinguished Professor and Curator in the Florida Museum of Natural History and Department of Biology at the University of Florida	Building, Using, and Teaching the Tree of Life
<b>Prof. Shrinivas. R. Kulkarni</b>	George Ellery Hale Professor of Astronomy and Planetary Science, California Institute of Technology	Astronomy on the Cusp: A Subject Driven by Progress in Technology
<b>Prof. Peter Zoller</b>	Professor of Physics, Institute for Theoretical Physics, University of Innsbruck, Austria	A Quantum Leap in Quantum Information: Building Quantum Computers and Quantum Simulators with Cold Atoms and Ions
<b>Prof. Johannes Krause</b>	Director, Max Planck Institute for the Science of Human History	The Genetics History of the Ryukyuan
<b>Prof. Svante Pääbo</b>	Director, the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany 2022 Nobel Prize in Physiology or Medicine	A Neandertal Perspective on Human Origins

See more Presidential Lectures: <https://www.oist.jp/about/president/lectures>

## ACHIEVEMENTS IN EDUCATION

**P**h.D. education is the second pillar of the OIST mission.

Thanks to the quality of our researchers and staff, we are able to deliver exceptional graduate research-based training. Our Ph.D. program in science provides graduate students with courses that are specifically tailored to their needs and interests. This is combined with comprehensive support for our diverse groups of students with such promising talent.

### EDUCATING THE NEXT GENERATION OF SCIENTIFIC LEADERS

Just over ten years ago, on September 1, 2012, OIST accepted its first students. Then in 2018 during my tenure, our first year of students graduated. Our first students were real pioneers, who entrusted their careers to a new university. They were deeply engaged with the development of our education pillar and became co-creators of graduate education and co-founders of a tradition. Graduate students from many classes have followed them and this year we celebrated our 100th graduate to have successfully completed a Ph.D. program. All have contributed to the advancement of our graduate education, as they have to our community. For me the best part of each graduation ceremony is the proud and happy faces of our students.

One of the greatest challenges in creating OIST was to design a world class graduate course from scratch. The task was led by the then Dean of the Graduate School, Prof. Jeff Wickens, who established an outstanding program with the strong support of my predecessor Dr. Jonathan Dorfan and our

faculty. Thanks to these efforts, I was able to host the first graduation ceremony less than six years after the first class had enrolled, a truly remarkable achievement.

### STUDENT RECRUITMENT AND SUPPORT



Our total Ph.D. applications are up by almost 200%, with enrolment of Japanese students up from 13% to 22%. It is perhaps no coincidence that we were recognized by the Times Higher Education Awards Asia for the best student recruitment campaign in 2019.

With leadership from Dr. Kathy Takayama, we have established the C-Hub (Center for Professional Development and Inclusive Excellence) where faculty, students, post-doctoral, research and administrative staff can explore opportunities for personal and career growth, unlocking yet more development opportunities in addition to the potential to create connections across and beyond the university.

The Graduate School also makes

sure that our graduates can feel at home at OIST and are able to engage with the local community through professional career development programs. Congratulations to Professor Ulf Skoglund, Dean of the Graduate School, his teams and our graduates for their outstanding work.

### STUDENT ACHIEVEMENTS

We want to stay connected with our graduate students, learn more about their careers, and the paths they take in life. OIST alumni are contributing to teaching and learning in Japan and beyond. We have graduates on tenure track faculty and research investigator positions at Harvard Medical School, Kyoto University and Academia Sinica among other prestigious universities. They are pursuing postdoctoral research, securing positions in industry and creating startup companies as they develop their careers beyond OIST.

It is not possible to mention all our graduates' exciting journeys here, but I would like to express our pride in all their achievements.

We sincerely hope their time at OIST has set them up for success, in some cases, in business and innovation, the very realization of the university mission. We also observe that Japan is the most popular destination for our graduates after completing their studies with us. As a university we are incredibly proud of the achievements of our students and alumni.



The third pillar in OIST's mission is Innovation and Entrepreneurship and we are working towards two main goals. First, we are expanding our innovation partnerships to facilitate the translation of OIST research from intellectual properties into products and services. Second, we are attracting entrepreneurs to develop their startups at OIST and co-create the innovation ecosystem in Okinawa.

## A VIBRANT INNOVATION ECOSYSTEM



The basis is laid, with 89 research units established, sophisticated lab facilities, an interdisciplinary graduate school program and state-of-the-art equipment, OIST is positioned to become a key player in the region.

We have expanded and strengthened our academia-industry collaborations to deliver growth in sponsored or commissioned external funding. In 2018 we completed the construction of a 500m<sup>2</sup> prefab facility and opened I2 Innovation Square the following year to foster startups arising from our research, affiliates, and entrepreneurs from outside OIST. Our efforts to translate research into discovery have resulted in an 86% success rate, and we have increased the number of patents granted to the university by 400% when compared to the previous six-year period.

After supporting 56 projects since 2018 through proof of concept

(POC) funding from the Technology Development and Innovation Center and four Technology Pioneer Fellowships since 2020, four startups have launched based on OIST research. This year we were delighted to launch additional new projects which have exciting potential to benefit society.

Our innovation and entrepreneurship activities have been taken to another level since we attracted Gil Granot-Mayer who joined us as Executive Vice President for Technology Development and Innovation. Gil's credibility, decision-making, open mind to curiosity, management skills and expertise have given innovation at OIST a major boost.

## TECH-TRANSFER AND ENTREPRENEURSHIP

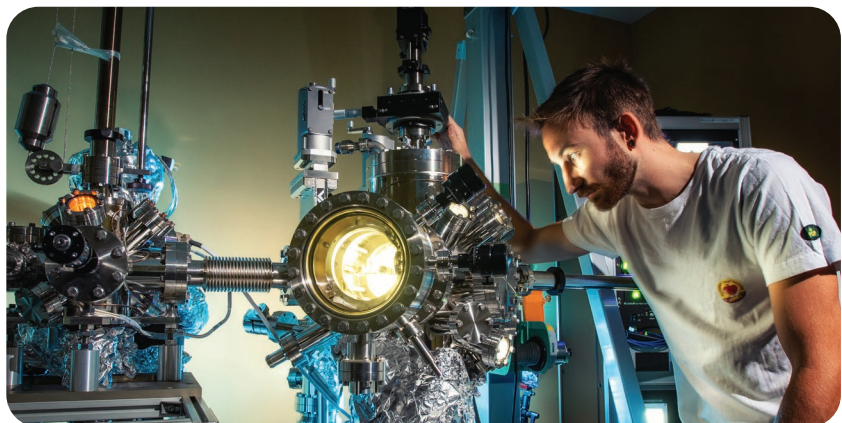
In 2020 we established our Entrepreneur-in-Residence program which offers three to six month on-site residences for experienced global entrepreneurs and investors

who offer advice and mentorship to prospective entrepreneurs at OIST.

With the University's strong commitment to technology transfer, we already observe considerable activity in startups, going from one company to over 30 and full occupancy in OIST's Incubator I, with plans already in motion for a 1000m<sup>2</sup> Incubator II with open, shared, and private dry/wet lab space and offices.

One of our affiliated startups, EF Polymer, was awarded Japan's 'Green Startup of the Year' award in 2022, in addition to completing a round of seed funding with a total of ¥40M. This makes EF Polymer the first company from our startup accelerator program to receive seed round funding, with many more to come.

The accelerator program continues to garner support from our key strategic partner, the Okinawa Prefectural Government. As the number of startups grows, together with our public and private partners from industry, business, and governments, we are working to set up an Okinawa Innovation District in proximity to OIST. The creation of high-tech startups will attract investment and create jobs through the introduction of new industries, allowing Okinawa's economy to prosper. The north campus development will unlock further potential providing essential space for incubators, offices, conference facilities, community services and residential housing.





## TURBO-CHARGING INNOVATION

In 2021, we announced a new partnership with Beyond Next Ventures to create an innovation hub focused on startups in deep tech. The OIST-BNV Innovation Hub (OBI-Hub) is a platform for startups from anywhere in the world and aims to deploy around ¥500M over the next two years to bring new innovations to the market.

Our industry affiliates program, the Innovation Network at OIST (INO) is designed as a gateway for Japanese and multinational companies to be introduced to our research, education, and innovation activities, with the aim of building long-term collaborative partnerships. Thirteen founding industry members joined INO during 2021 and we reached 34 members within the first year. We hope to welcome many more members in the future.

In November this year we launched a new multi-disciplinary research and innovation center, the Global Bioconvergence Center of Innovation. Already the center has plans underway to develop novel approaches to healthy aging (Suntory Global Innovation Center), establish an automated lab analytics system for microbiome and multi-omics data including integrat-

ed with AI tools for disease prediction (Corundum Systems Biology Inc.), promote human-computer Interface by combining human science and computer science (SONY Computer Science Lab) and to survey oceanic currents and coral reef biodiversity in the Ryukyu Islands.

Together, with our partners, we have created the OIST Lifetime Ventures Fund. This is a ¥5B venture capital fund in Japan to deliver impactful science based deep tech solutions in sectors that include health tech, the future of work, sustainable living, and the blue economy. The fund will support technical experts and founders with the flexibility and the support beyond funding they need to transition their ideas or research into commercially successful companies. We hope the potential offered by this fund will be attractive to further institutional and private investors.

We know that if our effort to seed an innovation ecosystem is supported, the GDP per capita of Okinawa will be boosted significantly. A recent report has shown that each high-quality job created at or because of OIST generates at least two others in the prefecture. The direct and indirect economic impact from OIST, affiliated startups, business support services, and tax revenues together is estimated to generate substantial employment and has the potential to fill a significant fraction of the gap in GDP between Okinawa and the rest of Japan.

To encourage and develop these new ideas and innovations, we are creating an environment that recognizes the value of risk-taking in the pursuit of knowledge and ensures that resources are available for our OIST orchestra to translate new discoveries into impact.



The launch of OIST-Lifetime Ventures Fund with General Partners Ryosuke Kimura of Lifetime Ventures and Paul McInerney of Incubate Fund (May 26, 2022)

## ACHIEVEMENTS IN GOVERNANCE AND MANAGEMENT

It is essential that a university that aspires to be outstanding in research, teaching, and innovation also aims to be outstanding in leadership, governance, and management. These disciplines help to create an environment that allows talented researchers to flourish.

### DISTINGUISHED LEADERSHIP

Our governance is provided by the Board of Governors advised by the Board of Councilors, both of which are made up of international, distinguished individuals with relevant experience from academia, business, industry, finance and other public and research institutions. Members typically serve for two terms of three years, and it is vital that quality is maintained. During the last six years, we have made nine appointments to the Board of Governors and 14 to the Board of Councilors.

The university management is led by the President, who is also the CEO of the School Corporation, appointed by the Board of Governors. Over the past six years, we have professionalized the management through structural reforms, the introduction of management and leadership tools, the introduction of regular management retreats, analytics, institutional research,



Dr. Cherry Murray, Chair of the Board of Governors, with Dr. Torsten Wiesel, outgoing Chair (Sep. 29, 2017)

and benchmarking.

The Office of the President organizes affairs for the President, managing important connections with our OIST community and governance boards, in addition to external relations with partners and industrialists. I am grateful to all the members of the office for their continued support and diligence. I would particularly like to thank Senior Analyst, Dr. Cecilia Lu and Office Manager, Yoko Toyama who have been key enablers during my tenure. I am incredibly grateful for their steadfast professionalism and collaboration on the myriad challenges associated with leading such a busy and dynamic organization. I would also like to thank my advisory team, especially Dr. Sabine Zimmermann, for her unflinching

integrity and balanced approach.

The academic side of the University is managed by the Provost, assisted by three Deans (faculty affairs, graduate school, and research) while the administrative side is managed by the secretary general, assisted by five Vice Presidents (financial management, human resources, information technology, buildings and facility management, and university community services), while the executive vice president for technology development and innovation, the Vice President for Communication and Public relations, and the Vice President for Strategy Implementation report directly to the President. We have recruited all of the senior management positions over the past six years.



Board meeting in session (Oct. 2, 2019)



OIST's Senior Management welcomed Denny Tamaki, the Governor of Okinawa. "Let's create a sustainable and prosperous global society together from here in Okinawa." (Sep. 13, 2019)

## A STRATEGIC APPROACH

An important component of both governance and management was the development of the Strategic Plan 2020-2030 during 2018 and 2019 which is now being implemented. This comprehensive document illuminating our path for the next decade was developed as a result of a tremendous effort involving many members of the OIST orchestra. This is an invaluable resource, and I am grateful to all who were involved in its creation. In particular I would like to thank Dr. Ken Peach who was our Senior Advisor for Strategy, and his team for spearheading this important initiative.

## RIGOROUS SUPPORT



Alongside robust internal management and external governance, it is also essential to check constantly against benchmarks and other indicators, using internal and external resources. Apart from the high-level external, largely scientific, reviews by the Perspective Council and the External Review Panel, there have been several specialized reviews. These have included the engagement and enablement

survey of all staff by Korn Ferry, and the review of the operating model and mission of OIST administration by Bain & Co, as well as expert reviews of the scientific support sections of the Research Support Division.

## EMBRACING THE SUSTAINABLE DEVELOPMENT GOALS



We support the Sustainable Development Goals

In 2015, all of the United Nations member states adopted the 2030 Agenda for Sustainable Development, which outlined how the planet and all its inhabitants could achieve a shared vision of peace and prosperity. At the center of this agenda are the 17 Sustainable Development Goals (SDGs), which cover the spectrum of sustainability, from gender equality and putting an end to poverty to conserving life on land.

Scientists, staff, students, families and even their children enrolled in the pre-school and after-school programs are contributing to these goals through research, outreach, and partnerships with local municipalities and industries from Okinawa, Japan, and abroad.



## ENGAGING WITH SCIENCE, BUSINESS, AND POLICY

We continue to expand our national and international network with prominent corporate and academic organizations and to build relationships with distinguished members of science, business, industry, and finance.

Within Japan we have strengthened our collaboration with several prestigious institutes including RIKEN, the largest comprehensive research institution in Japan, renowned for high-quality research in many scientific disciplines. We continue to strengthen our ties with Tohoku University, Kyoto University, Osaka University, The University of Tokyo, University of the Ryukyus, and Keio University.

In 2020 we opened the OIST Tokyo Office at the International House of Japan (I-House). The Tokyo Office pursues our government relations at ministerial level and has hosted public lectures on quantum cybersecurity, energy, climate change, and more, while organizing events to present OIST research to industry and other potential partners.

In July this year, we further strengthened our presence in Tokyo through a strategic partnership with



View from the Tokyo Office at the International House of Japan

the I-House. I-House hosts world class intellectuals and promotes initiatives aimed at finding solutions to global challenges. This strategic partnership will present further opportunity to advance science and technology and to craft a startup culture in Japan.

With our international network, we collaborated with Academia Sinica, Sorbonne University and the Hebrew University of Jerusalem. In collaboration with the Hawaiian non-profit organization Kua'āina Ulu 'Auamo (KUA) and East-West Center, we are promoting cross-cultural learning exchanges between Okinawa and Hawaii.

In 2019, we co-founded the Basic Research Institutions Delivering Graduate Education (BRIDGE)

Network connecting five research institutes from four regions of the world. Along with OIST, the network includes the Rockefeller University (USA), the Francis Crick Institute (UK), the Weizmann Institute of Science (Israel) and the Institute of Science and Technology Austria (Austria) with the aim of strengthening excellence in scientific research and education through collaboration and exchange.

We have also broadened and strengthened our relationship with the business community through research collaborations with companies and by partnering on events with the Asia Society Japan, the Japan Association of Corporate Executives (Keizai Doyukai) and its Okinawan branch, and others.



Courtesy call on Mr. Shinzo Abe, Prime Minister of Japan at the time with the Visionary of OIST Mr. Koji Omi (Apr. 5 2017)



Academia-industry collaboration with Mr. Takeshi (Tak) Niinami, CEO of Suntory Holdings Limited. (Nov. 24, 2021)



New partnership with Keio University (Dec. 6, 2021)



Asia Society Policy Salon Tokyo at the I-House of Japan (Sep. 26, 2019)

## CONTRIBUTING TO OKINAWA, JAPAN, AND THE WORLD

We play in concert with Okinawa and Japan, through chords that bridge science, the economy, culture, and society.

### CREATION OF THE OIST FOUNDATION

Together we have established the OIST Foundation. As a very young university, we do not yet enjoy significant donations from alumni, retired faculty and philanthropists. We anticipate that these donations will grow as OIST's global reputation grows.

We have launched several funds including The Rita R. Colwell Impact Fund for Women in science, established to honor the work of Professor Rita Colwell, former director of the U.S. National Science Founda-



OIST Foundation launch in Washington D.C., USA (Nov. 14, 2019)

tion and OIST Board of Governors. The fund will broadly support women in science and includes grant opportunities to help nurture an interest in science among Okinawan girls. The Matsuro and Tsuruko Nakasone Fund has been created to support hands-on sci-

ence education activities, primarily for younger school children and for girls, with a generous donation from Mr. Robert Nakasone. The Seishyoukou endowment fund will support STEM outreach by OIST, with a focus on under-served youth in Okinawa.

### INTEGRATING WITH OKINAWA

The Nobel Laureate Dr. Jerome Friedman was the first member of OIST to teach students in Okina-

wa's schools about the wonders of science. Our faculty and researchers who come from all over the world and are distinguished in their fields have acted as role models for children in Okinawa.

In 2021 we signed an agreement

of collaboration for the conservation and management of World Heritage Sites in Okinawa, with six other parties, including the Okinawa Prefecture and the Ministry of Environment's Okinawa Amami Nature and Environment Office. This year in 2022, we signed comprehensive collaboration agreements with Onna Village and Yomitan Village.

Our agreements with Yomitan Village and Onna Village, will further enhance our collaboration with the communities that neighbor our campus to make a positive difference for residents, while contributing to the sustainable development of Okinawa.

After more than two years of restricted access because of COVID we once again welcome visitors to our campus and are proud to show them round our facilities and the spectacular views from our cafeteria. We are especially welcoming to local children, either visiting their school or attending one of our popular science events.



Dedication of mural art inspired by the meeting between the natural beauty of Okinawa and the high-caliber scientific minds at OIST (May 24, 2018)





## COVID-19 RESPONSE

I am incredibly proud of how the OIST community rallied together during the COVID-19 pandemic. I am unable to mention all of this important work, but I would like to thank each one of you for your support and hard work during this unprecedented time. Members of our community worked tirelessly to keep the campus safe, through proper protocols and on-campus PCR testing. We extended our efforts beyond OIST, working to help protect residents of Okinawa through the provision of personal protective equipment

(e.g., face shields, face masks), alcohol-based gels and community testing services. Our researchers and students responded rapidly, with the Biological Complexity Unit providing early predictions of how this virus could spread in Okinawa if unchecked; the Integrated Open Systems Unit contributing to the COVID-19 disease mapping project; and the Communication and Public Relations Team making educational videos for local children who were suddenly learning from home.

Our university is deeply rooted within Okinawa, and this was clearly reflected in our response to COVID-19. An interdisciplinary approach led by the Molecular Cryo-Electron Microscopy Unit in collaboration with other OIST

Research Units developed a COVID-19 antibody test that helped to reassure the Okinawan vets, firefighters, nurses, and clinicians of the persistence of antibodies after exposure. Researchers in the Micro/Bio/Nanofluidics Unit, developed rapid, reliable, and low-cost chips for use in COVID-19 antibody test devices. In collaboration with the Okinawa Prefecture Government, a controlled laboratory at OIST delivered nearly 400,000 PCR tests for COVID-19 to the local community. We were one of the first universities and employers larger than 1,000 to roll out workplace vaccination in Japan and must extend our thanks and gratitude to the medical associations in Okinawa for their partnership.



OIST students and a team of volunteers prepared alcohol-based gel following guidelines provided by the World Health Organization for health care facilities around Okinawa

## LOOKING TO THE FUTURE

The journey for OIST does not end here. The challenges and perils of complacency and sustaining excellence, while raising funds to support the entire OIST project takes hard work.

## A BEACON OF WORLD CLASS RESEARCH

We must continue to grow, OIST's view from the outset has been that 300 faculty is an important target. This growth will further enable our work to develop cutting-edge science and technology that is relevant to Okinawa and the wider world. As we continue to develop as a local, national, regional and international research hub, we serve as a model for international research, while enhancing Japanese research capability and providing valuable insight to the wider research community. This continued investment in the OIST mission has already begun to show it generates significant returns for Okinawa and Japan and needs to be continued.



“For somebody whose life work has been advocating the critical importance of diversity in promoting growth, I strongly believe this is where the magic of problem solving, innovation, and growth happens.”

Kathy Matsui, Commencement Speaker at OIST Graduation Ceremony 2021



The Prime Minister of Japan Fumio Kishida met with OIST faculty and students about their research and industry collaboration prospects (May 15, 2022)

## TRAINING FUTURE TALENT

By continuing to foster the next generation of science and technology talent, we will continue to create a knowledge-based workforce. It is vital for Japan, and for Okinawa, to attract, educate, and train an increasing number of graduates, and to prepare them for the jobs of the future. In order to achieve this, we have created an environment that attracts the best talent from Japan and around the world, with a dynamic mix of early career scientists and established leaders in their field. OIST graduates will go on to train the scientists of the future, start and lead businesses and will fill talent gaps in current and emerging industries.

## BOOSTING THE REGIONAL AND NATIONAL ECONOMY

Our international environment that offers expertise, facilities, routes to funding and foundations to expand for Japanese

and international entrepreneurs through our incubator and accelerator programs for startups, will nucleate an innovation district in Okinawa. This industry transformation and economic impact will attract venture capital, innovators, and entrepreneurs, in turn creating opportunities, jobs and prosperity in the region. We are transforming the science and innovation system nationally and internationally, as well as developing the economic system locally through technology transfer, employment opportunities and our impact on education. Over 350 Okinawans are now directly employed in positions within OIST, and it is anticipated that OIST will directly employ 1,000 Okinawans by 2040 making OIST one of the larger local employers.

A recent study has shown that OIST is catalyzing the local and Japanese economy, and that, for every 100 yen invested in OIST, 163 yen will be returned to the Okinawan economy on average, and 228 yen is returned to the Japanese economy through innovation and economic stimulus. The OIST-branded venture capital fund is expected to support 50-100 startup companies to spur growth. The north campus development presents a further opportunity for OIST to make a positive impact in Okinawa and Japan.

## WITH SINCERE GRATITUDE AND THANKS

I would like to express my sincere thanks and gratitude to you all for the successes that we have achieved over the last six years. These are the result of the outstanding work and dedication of many and I recognize that the pace has been fast, with a high level of expectation. I would like to thank you all personally for your contributions, for your trust, your support, and your hard work.

My story with OIST does not end here. I will be staying on as Senior Advisor for Innovation to lay the groundwork for the North Campus Development from January onwards and will remain a frequent visitor to the university and part of this wonderful community. I hope this will allow for more time to also enjoy the incredible outdoor activities this island has to offer, so you may also find me snorkeling, diving, and hiking in the forests of Yambaru.

As our orchestra continues to deliver in research, education, community, society, government and more, we must continue to play in harmony, while navigating future challenges and remaining steadfast in our endeavors in the pursuit of knowledge, for the advancement of humanity.





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