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NEWS RELEASE

Rolex Names Winners of Global Enterprise Awards in Commemorative Year

LOS ANGELES TO HOST 40TH ANNIVERSARY CELEBRATION OF THE SPIRIT OF ENTERPRISE

Los Angeles, 15 November 2016

A polar scientist, a robotic suit designer and an eye specialist who wants to save millions of people from going blind are among 10 innovators from around the world who have won Rolex Awards in the 40th anniversary year of the programme. Other winners have projects as diverse as technology to stop hunger and conservation initiatives to save species and habitats.

The 10 Laureates and Young Laureates will be recognized tonight at a public awards ceremony in Los Angeles.

The Rolex Awards are an international philanthropic programme that supports new and ongoing projects by individuals taking on major challenges to benefit mankind. It has served as a benchmark for corporate philanthropy the world over for four decades.

Hundreds of luminaries, leading scientists, environmentalists and business people from Los Angeles and abroad will gather this evening at the Dolby Theatre, a Hollywood landmark that is renowned as home of the Academy Awards, to celebrate the spirit of enterprise manifested by the winners chosen in this commemorative year.

The 10 winners of 2016 join the 130 Laureates who have gone before them in the 40 years since the Awards' launch in 1976 when the programme was created to observe the half-century celebration of the iconic Rolex Oyster chronometer, the world's first waterproof wristwatch.

"We are celebrating a very significant occasion in the history of the Awards and in the history of Rolex," said Rebecca Irvin, Head of Philanthropy at Rolex. "Forty years ago the company initiated the Rolex Awards to commemorate the 50th anniversary of the Oyster in a manner that reflected the spirit of enterprise on which the company was founded.

“What better place to pay tribute to this enterprising spirit and the pioneering work of the 10 Rolex Awards winners than a city – Los Angeles – that embraces diversity and innovation.”

The six men and four women were chosen by an international Jury of 12 eminent experts who selected them after meeting with the finalists who had been shortlisted from among 2,322 applicants representing 144 nationalities. Each Laureate receives 100,000 Swiss francs (US\$104,000) and each Young Laureate 50,000 Swiss francs (\$52,000) to advance their project; all receive a Rolex chronometer and worldwide publicity.

The five Rolex Laureates honoured at the ceremony are:

Andrew BASTAWROUS, 36, United Kingdom – is an ophthalmologist whose team’s smartphone-based portable eye examination system, Peek Vision, is radically changing eye care in sub-Saharan Africa and other resource-poor settings. Working in partnerships, trained lay people such as teachers or community volunteers can screen for vision problems, blindness and other eye diseases, enabling accurate diagnosis and treatment. Bastawrous and his team will set up a centre of excellence for Peek training and learning in Kitale, Kenya.

Kerstin FORSBERG, 32, Peru – is a biologist protecting giant manta rays by helping fishermen pursue ecotourism as an alternative income source and training them alongside ecotourists to collect data on the distribution and abundance of this species. Forsberg will work with local communities to raise awareness and appreciation of giant mantas through outreach programmes that creatively combine the use of science and education.

Vreni HÄUSSERMANN, 46, Chile/Germany – is exploring Chilean Patagonia’s fjords to document the unknown and unique life at the bottom of the sea at three remote areas by combining exploration and science in an attempt to create support for conservation through public outreach. She is also raising awareness about the damaging effects of current human activities on marine ecosystems to engage the public and decision-makers in setting up a science-based network of marine protected areas.

Conor WALSH, 35, Ireland – is a mechanical and biomedical engineer, based at Harvard University in the US, who is tackling the mobility problems of stroke sufferers and others by developing a soft robotic suit that can be worn under clothes and will enable physically impaired people to walk without assistance. Expected to be ready in about three years, after clinical trials and regulatory approval, his “exosuit” will analyse and gradually train muscles, limbs and joints back into healthy patterns of movement.

Sonam WANGCHUK, 50, India – is a Ladakhi engineer who is solving the problem of a lack of water for agriculture in the desert landscapes of the western Himalayas by building “ice stupas”. Named after Buddhist monuments, these conical ice mounds behave like mini artificial glaciers, slowly releasing water in the growing season. He intends to build up to 20 ice stupas, each 30 metres high and capable of supplying millions of litres of water. A long-term aim is to build an alternative university and engage youth in the environment.

In light of the growing number of achievers under the age of 30 who are tackling today’s challenges with fervour, Rolex began a Young Laureates segment of the Enterprise Awards programme in 2010 to encourage younger pioneers at a critical stage of their careers and help them bring innovative ideas to fruition.

The five Young Laureates announced at the Los Angeles ceremony are:

Joseph COOK, 29, United Kingdom – is a pioneer in the field of glacial microbiology who, through his Ice Alive mission, is exploring polar ice microbes in the vast “frozen rainforest” of the Greenland ice sheet and communicating how these microbes influence climate, nutrient and carbon cycles, and other aspects of our world and its systems.

Oscar EKPONIMO, 30, Nigeria – is addressing the problems of food poverty through Chowberry, a cloud-based application that automates the monitoring of food products approaching the end of shelf-life and generates notifications to food retailers, allowing them to offer discounts to charities, and ultimately helping to alleviate hunger in the country.

Christine KEUNG, 24, United States – emigrated to the US at the age of four and is using her education as a force for good by empowering women in north-western China, where her family originated, to work with doctors and industry to reduce water and soil pollution and act as environmental stewards and agents of change.

Junto OHKI, 29, Japan – is improving communication among hearing-impaired people worldwide by expanding a crowdsourced, online sign-language database dictionary called SLinto, which will bridge the gap between the 126 extant sign languages and become a global platform for all existing and new signs.

Sarah TOUMI, 29, France/Tunisia – is spearheading a grass-roots initiative, Acacias for All, in Tunisia, to fight the country’s desertification caused by climate change and reduce poverty among farmers through reforestation and crops more suited to a lower rainfall. She also runs a non-governmental organization to help women and youth realize their potential.



The 2016 winners become part of the community of the Rolex Laureates and Associate Laureates who have helped to reshape the world in the 40 years since the Awards were created. Tonight's 40th anniversary celebration in Los Angeles acknowledges the catalytic impact that they have made on their communities and beyond.

Rolex philanthropy

Philanthropy and corporate social responsibility have been an integral part of Rolex's corporate culture since its beginnings. Supporting the greater good and individual achievement is fundamental to the company's ethos. The Rolex Awards for Enterprise and its sister programme, the Rolex Mentor and Protégé Arts Initiative, comprise the two major international philanthropic programmes created and run by the company. The Arts Initiative brings together emerging artists with masters in architecture, dance, film, literature, music, theatre and the visual arts for a year of intensive collaboration. The aim is to help ensure that artistic excellence is passed on to the next generation. Both programmes foster innovation and advance the work of those who exemplify the vision, originality and excellence that define Rolex.

For further information on the Rolex Awards for Enterprise, visit: rolexawards.com

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PHOTOGRAPHS ANDREW BASTAWROUS

Photographs can be downloaded from the press room at:
<https://pressroom.rolex.com/en/philanthropy>



Laureate Andrew Bastawrous, CEO of Peek, in Kitale, Kenya, where he plans to set up a centre of excellence.
 ©Rolex/Joan Bardeletti



Laureate Andrew Bastawrous, CEO of Peek, with Kenyan colleagues in Kitale Hospital.
 ©Rolex/Joan Bardeletti



The Peek retina device is attached to the back of a smartphone.
 ©Rolex/Joan Bardeletti



A Kenyan woman has her sight tested by Peek after an eye operation.
 ©Rolex/Joan Bardeletti



Laureate Andrew Bastawrous uses the Peek device to examine a Kenyan woman suffering from blindness.
 ©Rolex/Joan Bardeletti



Laureate Andrew Bastawrous uses the Peek device to examine a Kenyan woman suffering from blindness.
 ©Rolex/Joan Bardeletti



Andrew Bastawrous (centre) uses Peek to check a Kenyan man's sight (right).
 ©Rolex/Joan Bardeletti



In a remote Kenyan village Isaac Busieney's retina is examined using Peek's mobile technology.
 ©Rolex/Joan Bardeletti



An image of a retina on Peek's mobile device during eye tests at Lurare school in Kenya.
 ©Rolex/Joan Bardeletti



Kenyan school teachers who have tested children's sight using Peek's mobile devices.
 ©Rolex/Joan Bardeletti



Peek staffer Cosmas Bunywera (centre) with people whose sight he has tested using Peek devices.
 ©Rolex/Joan Bardeletti



Andrew Bastawrous and colleagues at the site where Peek's centre of excellence will be built.
 ©Rolex/Joan Bardeletti

PHOTOGRAPHS KERSTIN FORSBERG

Photographs can be downloaded from the press room at:
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Laureate Kerstin Forsberg in Zorritos, Peru.
 ©Rolex/François Schaer



Laureate Kerstin Forsberg (centre) and her team in their office in Zorritos, Peru.
 ©Rolex/François Schaer



Fishing boats set out for their early morning catch.
 ©Rolex/François Schaer



At Puerto Pizarro fishing harbour, Kerstin Forsberg (centre) talks to fishermen about manta ray conservation.
 ©Rolex/François Schaer



Divers in Forsberg's team search for manta rays.
 ©Rolex/François Schaer



The manta ray's wingspan can reach up to 7 metres and its weight two tonnes.
 ©GettyImage/Martin Strmiska



Laureate Kerstin Forsberg (right) and a colleague prepare to dive on a manta ray search.
 ©Rolex/François Schaer



Community members in Zorritos, Peru, create a mural to raise awareness of manta ray protection.
 ©Rolex/François Schaer



Laureate Kerstin Forsberg and school children play games raising awareness of manta ray protection.
 ©Rolex/François Schaer



Children take part in a street parade to raise awareness of manta rays.
 ©Rolex/François Schaer



Kerstin Forsberg announces winners of a best manta costume competition at the street parade.
 ©Rolex/François Schaer



Kerstin Forsberg takes part in a street parade to raise awareness of manta ray protection.
 ©Rolex/François Schaer

PHOTOGRAPHS
VRENI HÄUSSERMANN

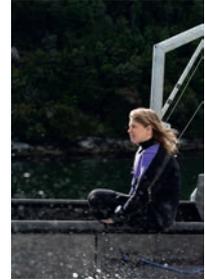
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Vreni Häussermann, marine biologist and 2016 Laureate.
 ©Rolex/Tomas Munita



Huinay Scientific Field Station is located in an isolated area of Chile's Patagonian fjords.
 ©Rolex/Ambroise Tézenas



Vreni Häussermann on an expedition to collect marine life from the fjord.
 ©Rolex/Ambroise Tézenas



Vreni Häussermann with a remotely operated vehicle that she uses to document and sample deep-water marine life.
 ©Rolex/Ambroise Tézenas



The remotely operated vehicle is placed in the water, ready for exploration.
 ©Rolex/Ambroise Tézenas



Patagonia's fjords, the focus of Vreni Häussermann's research, are a biodiversity hotspot.
 ©Vreni Häussermann & Günter Försterra



Sea anemones (*Actinostola chilensis*) on the Patagonian seabed.
 ©Vreni Häussermann & Günter Försterra



The cold-water coral *Desmophyllum dianthus* is one of many marine creatures researched by Vreni Häussermann.
 ©Vreni Häussermann & Günter Försterra



Exploring the diverse marine life of Patagonia's fjords.
 ©Vreni Häussermann & Günter Försterra



Vreni Häussermann collects a tiny starfish (*Solaster regularis*) for analysis at Huinay Scientific Field Station.
 ©Jeffrey Garriock



Vreni Häussermann and her team analyse marine life in a dry laboratory.
 ©Rolex/Ambroise Tézenas



Vreni Häussermann, just back from a dive, in the wet laboratory at Huinay Scientific Field Station.
 ©Rolex/Ambroise Tézenas

PHOTOGRAPHS CONOR WALSH

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Conor Walsh at Harvard University.
 ©Rolex/Fred Merz



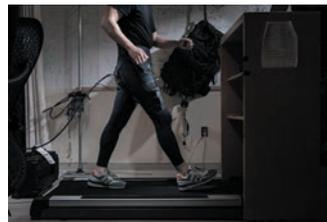
The exosuit displayed on a mannequin.
 ©Rolex/Fred Merz



The exosuit is adjusted on a mannequin.
 ©Rolex/Fred Merz



The engine that powers the exosuit developed by Laureate Conor Walsh and his team.
 ©Rolex/Fred Merz



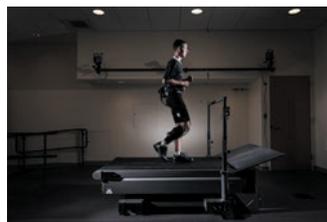
The exosuit is tested in a laboratory.
 ©Rolex/Fred Merz



The results of laboratory tests on the exosuit are recorded.
 ©Rolex/Fred Merz



The components of an exosuit ready for assembly on a mannequin.
 ©Rolex/Fred Merz



Laboratory tests of the exosuit at the Wyss Institute for Biologically Inspired Engineering, Harvard University.
 ©Rolex/Fred Merz



Laboratory tests of the exosuit at the Wyss Institute for Biologically Inspired Engineering, Harvard University.
 ©Rolex/Fred Merz



Laureate Conor Walsh (right) and his team at the Wyss Institute, Harvard University.
 ©Rolex/Fred Merz



Laureate Conor Walsh (left) and a colleague assemble an exosuit on a mannequin.
 ©Rolex/Fred Merz



Outdoor exosuit tests.
 ©Rolex/Fred Merz

PHOTOGRAPHS SONAM WANGCHUK

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<https://pressroom.rolex.com/en/philanthropy>



Gravity pressure forces water up through a pipe to form ice stupas that store water for the crop-growing season.
 ©Sonam Wangchuk



In late spring, the melting ice stupa provides water for crops.
 ©Sonam Wangchuk



Laureate Sonam Wangchuk uses natural materials like bushes to start ice formation.
 ©Rolex/Stefan Walter



Laureate Sonam Wangchuk at 4,000 m in Ladakh, an area that suffers water shortages.
 ©Rolex/Stefan Walter



A tree plantation receiving water from ice stupas.
 ©Rolex/Stefan Walter



Sonam Wangchuk and a colleague create a drip irrigation network to use water from ice stupas.
 ©Rolex/Stefan Walter



A traditional stone stupa in the Phyang valley in Ladakh.
 ©Rolex/Stefan Walter



Sonam Wangchuk shows building plans to monks and colleagues at the planned site for a university.
 ©Rolex/Stefan Walter



An experiment in desert tree plantation at the SECMOL Alternative School.
 ©Rolex/Stefan Walter



Phyang monastery in Ladakh.
 ©Rolex/Stefan Walter



An irrigated valley in Lamaruyu, Ladakh, often called the moonland due to its barrenness.
 ©Rolex/Stefan Walter

PHOTOGRAPHS JOSEPH COOK

Photographs can be downloaded from the press room at:
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The University of Sheffield, United Kingdom, where Young Laureate Joseph Cook is a research scientist.
 ©Rolex/Marc Latzel



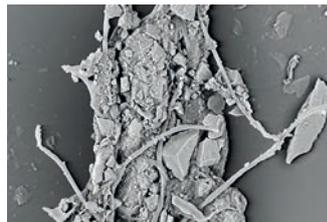
Joseph Cook, glacier microbiologist and 2016 Young Laureate.
 ©Rolex/Marc Latzel



Young Laureate Joseph Cook extracting bacteria and minerals from a water sample.
 ©Rolex/Marc Latzel



Young Laureate Joseph Cook extracting bacteria and minerals from a water sample.
 ©Rolex/Marc Latzel



Arctic samples from Joseph Cook's research seen through a microscope.
 ©Rolex/Marc Latzel



Young Laureate Joseph Cook on a Greenland research expedition.
 ©Courtesy of Joseph Cook



Research equipment in Joseph Cook's office at the University of Sheffield.
 ©Rolex/Marc Latzel



Joseph Cook collects samples from the Greenland ice sheet to be analysed in his lab.
 ©Courtesy of Joseph Cook



Joseph Cook collects samples from the Greenland ice sheet to be analysed in his lab.
 ©Courtesy of Joseph Cook



An ice hole in Greenland, showing bacteria around the circular hole.
 ©Courtesy of Joseph Cook



The region in Greenland where Cook is conducting his project.
 ©Courtesy of Joseph Cook



The region in Greenland where Cook is conducting his project.
 ©Courtesy of Joseph Cook

PHOTOGRAPHS OSCAR EKPONIMO

Photographs can be downloaded from the press room at:
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Oscar Ekponimo, software engineer, entrepreneur and Rolex Young Laureate, in his office.
 ©Rolex/Tomas Bertelsen



Young Laureate Oscar Ekponimo with colleagues generating ideas for Chowberry in his office.
 ©Rolex/Tomas Bertelsen



Young Laureate Oscar Ekponimo uses Chowberry on a tablet to register supermarket goods.
 ©Rolex/Tomas Bertelsen



Young Laureate Oscar Ekponimo outside one of the retailers in Abuja, Nigeria, which uses Chowberry.
 ©Rolex/Tomas Bertelsen



Supermarket manager Abduljeleel Salawudeen (right) and Oscar Ekponimo select items to list in the Chowberry app.
 ©Rolex/Tomas Bertelsen



Young Laureate Oscar Ekponimo uses Chowberry on a tablet to register supermarket goods.
 ©Rolex/Tomas Bertelsen



Chowberry colleagues using the application to record items in a supermarket.
 ©Rolex/Tomas Bertelsen



Oscar Ekponimo (centre) and supermarket manager Abduljeleel Salawudeen (left) select items for Chowberry.
 ©Rolex/Tomas Bertelsen



Oscar Ekponimo (right) visits Lea Wuye Primary, a Nigerian school whose pupils do not have enough to eat.
 ©Rolex/Tomas Bertelsen

PHOTOGRAPHS CHRISTINE KEUNG

Photographs can be downloaded from the press room at:
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Young Laureate Christine Keung by a polluted river near Xiangjisi village, Xi'an, China.
 © Rolex/Qilai Shen



Christine Keung with 79 year-old Guo Aifang, one of many women participating in Keung's project.
 © Rolex/Qilai Shen



Young Laureate Christine Keung plans a field trip with her colleagues in Xi'an, China.
 © Rolex/Qilai Shen



Christine Keung's colleagues discuss village waste problems before undertaking research in the field.
 © Rolex/Qilai Shen



A villager wading through a river near Xiangjisi village, Xi'an, China.
 © Rolex/Qilai Shen



A sanitation worker in front of a street display illustrating disposal methods in Xiangjisi village, Xi'an, China.
 © Rolex/Qilai Shen



Christine Keung and colleagues test water from a river in Yanan, China.
 © Rolex/Qilai Shen



A water-quality monitor used by Keung and her colleagues, on the banks of a river near Yanan, China.
 © Rolex/Qilai Shen



Christine Keung and colleagues test water from a river in Yanan, China.
 © Rolex/Qilai Shen



Christine Keung and village doctor Ma Juncheng in his clinic near Yanan, China.
 © Rolex/Qilai Shen



Christine Keung (centre) and colleagues test water from a well near Yanan, China.
 © Rolex/Qilai Shen



Christine Keung (left) and colleagues examine rubbish dumped beside a river near Yanan, China.
 © Rolex/Qilai Shen

PHOTOGRAPHS JUNTO OHKI

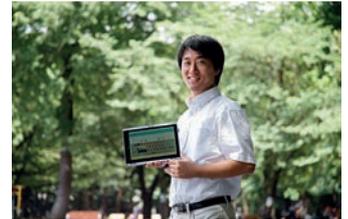
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Young Laureate Junto Ohki in his office.
 © Rolex/Hideki Shiozawa



Junto Ohki, Young Laureate and President of ShuR, at his office in Tokyo.
 © Rolex/Hideki Shiozawa



Young Laureate Junto Ohki displays signs on a computer tablet.
 © Rolex/Hideki Shiozawa



Junto Ohki demonstrates sign language.
 © Rolex/Hideki Shiozawa



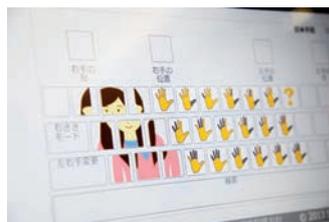
An interpreter at work using video chat at ShuR's office in Tokyo.
 © Rolex/Hideki Shiozawa



Sign language dictionaries in English, Korean, Chinese and Japanese.
 © Rolex/Hideki Shiozawa



Sign language interpretation using SLinto on a computer screen.
 © Rolex/Hideki Shiozawa



SLinto users select fingers and positions to form words.
 © Rolex/Hideki Shiozawa



Deaf people can communicate via sign languages that use both hand movements and facial expressions.
 © Rolex/Hideki Shiozawa



Deaf people can communicate via sign language that uses both hand movements and facial expressions.
 © Rolex/Hideki Shiozawa



Young Laureate Junto Ohki demonstrates how SLinto works.
 © Rolex/Hideki Shiozawa



Young Laureate Junto Ohki with a sign language interpreter at the ShuR office in Tokyo.
 © Rolex/Hideki Shiozawa

PHOTOGRAPHS SARAH TOUMI

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Sarah Toumi, Young Laureate and founder of Acacias for All, with moringa plants.
 ©Rolex/Reto Albertalli



Young Laureate Sarah Toumi explores the potential for growing acacia trees at Menzel Habib in Tunisia.
 ©Rolex/Reto Albertalli



Young Laureate Sarah Toumi under a 20 year-old acacia tree in Tunisia.
 ©Rolex/Reto Albertalli



A young acacia tree at Menzel Habib in Tunisia.
 ©Rolex/Reto Albertalli



The leaves and thorns of an acacia tree in Bou-Hedma National Park, Tunisia.
 ©Rolex/Reto Albertalli



A fully grown acacia tree in Bou-Hedma National Park, Tunisia.
 ©Rolex/Reto Albertalli



The seeds of an acacia tree in Bou-Hedma National Park, Tunisia.
 ©Rolex/Reto Albertalli



Young Laureate Sarah Toumi (standing) and colleagues planting acacia seedlings in Bir Salah, Tunisia.
 ©Rolex/Reto Albertalli



Acacia seedlings at Sarah Toumi's family property in Bir Salah, Tunisia.
 ©Rolex/Reto Albertalli



Sarah Toumi (left) planting seedlings.
 ©Rolex/Reto Albertalli



Acacia seedlings planted at Bir Salah, Tunisia.
 ©Rolex/Reto Albertalli



Acacia seedlings benefit from irrigation at Bir Salah, Tunisia.
 ©Rolex/Reto Albertalli

COUNTRY UNITED KINGDOM

AGE 36

LOCATION KENYA

PROJECT PEEK VISION: A SMARTPHONE-BASED PORTABLE EYE EXAMINATION SYSTEM FOR USE IN RESOURCE-POOR SETTINGS



British ophthalmologist Andrew Bastawrous started school, like many children, with poor eyesight. Once his vision was tested and he got his first pair of glasses, he started to do well academically. “The opportunities I had really opened up,” he says. “I was also acutely aware that had I been born somewhere else in the world, that wouldn’t have been true. It was always in the back of my mind that a huge imbalance exists between those who need eye care and those who have it available to them.”

That childhood experience has inspired his professional life. Now he is an entrepreneurial eye surgeon who is determined to make a sizeable dent in the number of people living with poor vision.

The vast majority of the world’s 285 million visually impaired people live in low-income countries, where they may have little or no access to diagnostic tests and treatment. Often they are in remote, hard-to-reach areas.

In 2011, Bastawrous left his job with the UK’s National Health Service and moved to Kenya, to lead a study of eye examinations among more than 5,000 people in remote areas. Trained eye specialists are especially scarce in sub-Saharan Africa.

With a team, Bastawrous travelled around rural Kenya in two vans carrying heavy, expensive machines for vision testing. Most villages had no electricity and often no roads. But most did have mobile phone coverage. He realized there had to be a more portable and economical solution.

“While I was carting around lots of high-tech equipment, I realized it may be possible to replace all of it using mobile devices. We could build a variety of apps and hardware that would enable non-healthcare workers to do high-quality vision testing without a huge amount of training.”

Peek, the Portable Eye Examination Kit, was the result. Bastawrous’s idea was to make an inexpensive, smartphone-based system for use in places where it is not practical to transport fragile, cumbersome electrical equipment and it is difficult for the few trained experts to reach.

His aim was “primarily to close a gap between where healthcare providers are and where those who are needlessly blind are – people who tend to be in rural areas and off the grid.”

Peek incorporates software applications, hardware adapters and systems. The apps replace standard ways of testing visual acuity and are based on the familiar ophthalmological eye chart that uses the letter E.

An adapter that changes the camera's optics fits over the phone and enables the tester to see the patient's retina. This test is critical to assess eye health in many types of chronic diseases.

Once the prototype system had been built, Bastawrous ran a clinical trial in which the team trained 25 schoolteachers to use Peek. They screened 21,000 students in nine days and found 900 with visual impairment. The training and the testing were met with enthusiasm by both teachers and the students who had their vision tested.

Bastawrous emphasizes that testing people without being able to treat them is useless, as is sending them into an overwhelmed health care system. His team carefully calculates the rate at which local services can absorb patients. Then the team provides training for screening, in a "train the trainers" model that can sustain itself.

In the trial, parents of children identified as having a vision problem received an SMS notification and the head teacher received a list of children needing care via SMS.

Screening programmes are now being organized for 300,000 more children in the same area of Kenya, with the possibility that Peek could become a national programme. Since beginning in Kenya, Peek is now also being used in Botswana, Tanzania and India, and there is interest from many other parts of the world, including the United States and Europe.

The price of success is how to implement the Peek system at scale, which the Rolex Award will help Bastawrous and his team do. The Award will allow for the establishment of a centre of excellence in Kitale, Kenya.

Bastawrous describes his vision for the centre: "We want this space we are creating in Kenya to become a place of leadership and high-quality training. But, more than that, we want to create an inspiring environment for local entrepreneurs, a co-working space, not only for Peek, but also for other entrepreneurial activities, right in the heart of where the problems are. I've worked with inspiring and humble leaders in Kenya and elsewhere who are striving to serve their communities. We want the centre to make a statement. For too long we've talked about helping Africa. Now, if you want help to deliver an eye-care programme you'll be able to go to Kenya to get help."



PROFILE

Andrew Bastawrous was born on 26 March 1980 in the United Kingdom to Egyptian parents. He took his medical degree from the University of Leeds. He is an ophthalmologist and clinical lecturer in international eye health at the London School of Hygiene and Tropical Medicine, and co-founder and CEO of Peek Vision. He has recently returned to London after spending two years in Kenya developing and testing the Peek Vision system and leading a major study of eye disease. He has also done prior research and has worked in Sierra Leone, Peru, Belize, Sri Lanka, Madagascar and Uganda.

He is the recipient of many scholarships and awards for his research and innovations in eye disease. His writing won him an award in science writing from the UK's Medical Research Council. His TED Talk, "Get your next eye exam on a smartphone", has been viewed more than one million times.

Bastawrous was recently voted one of the world's 30 most influential people in public health and was selected as a Young Global Leader by the World Economic Forum. In 2014, he was awarded the €100,000 Mazda Rebels with a Cause Prize and the Gifted Citizen Award, which was presented at the Ciudad de las Ideas conference, a forum designed to present innovative ideas in science and technology and many other areas of knowledge.

CONTACTS

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Twitter: [@peekteam](https://twitter.com/peekteam)

COUNTRY PERU

AGE 32

LOCATION PERU

PROJECT PROTECT GIANT MANTA RAYS IN PERU



With their seven-metre wingspans, giant manta rays are a captivating sight as they glide through the water. “They are just majestic,” says Lima-based conservation biologist Kerstin Forsberg of the iconic species she became determined to protect after discovering the extent of their vulnerability.

The tropical marine ecosystems in northern Peru support the country’s greatest marine biodiversity, giving life to more than 500 marine species. Taking advantage of the nutrient-rich waters is one of the world’s largest regional populations of giant mantas (*Manta birostris*), estimated to number over 650.

Giant mantas, which are plankton filterers, are classified as “vulnerable” by the International Union for Conservation of Nature (IUCN), with an “elevated risk of extinction”. Thousands are caught each year across the world to satisfy a lucrative market for their dried gills, which are used in traditional medicine. In Peru, fishermen reported taking up to dozens of mantas in a season for fish meat, putting the species under severe pressure, especially as they are slow to reproduce. Giant mantas take from seven to 10 years to reach maturity and produce just one pup every two to seven years.

“Giant mantas are extremely peaceful and completely harmless. They’re marvellous flagships for all vulnerable marine species,” says Forsberg. Through her NGO, Planeta Océano, Forsberg has been leading a project to change the way Peruvian communities perceive mantas – not just in terms of their ecological importance, but their potential value as high-profile tourist attractions that will make them worth a great deal more alive to Peru’s many coastal fishing communities. Though some tourists enjoy diving and whale-watching expeditions, marine tourism is still developing in northern Peru. Forsberg’s giant manta project could be a turning point in the perception of Peru’s ecotourism offer, particularly in its community-based focus.

Her long-term aim is to develop this giant manta project into a model that can be used in sustainable community-based initiatives for many different types of marine conservation projects worldwide.

The manta ray conservation initiative began in 2012, in collaboration with WildAid, the Manta Trust, the Disney Worldwide Conservation Fund, Project AWARE and the New England Aquarium. The project attracted additional support from local government institutions, but Forsberg’s early attempts to lobby the Peruvian

government about the importance of conserving giant mantas did not go far. “Our proposal to legally protect manta rays in Peru didn’t receive a response,” she recalls, “but we kept knocking at doors.”

Then, in 2015, an extremely large manta weighing 900 kg was caught, and became a local media sensation. “It was talked about as a monster,” recalls Forsberg. “People had no idea of how vulnerable giant mantas are.” Building upon this front-page news, Forsberg’s continued lobbying led to a government ban on giant manta captures a few months later.

Forsberg works from an office in Lima but travels to Tumbes, a two-hour flight, once every two months, staying for a week to monitor and implement conservation activities. Other members of her project team visit once a month, joining a field coordinator and local volunteers based there. Their fundamental aim is to launch sustainable, locally operated manta tourism that will be commercially valuable, and encourage fishermen and tourists to become citizen scientists who will collect reliable data about giant manta distribution.

In addition, an educational outreach programme, organized with Planeta Océano’s Marine Educators Network, is explaining giant manta conservation in more than 50 schools in northern Peru. “It’s about empowering local people to lead change, and we expect thousands of children and youth to now receive information about giant mantas from us,” says Forsberg. Talking about her work engaging coastal communities, Forsberg says: “It’s about approaching people, and listening to people. It has to be about what will work best for them. Solutions need to be developed together.”

The conservation project has so far involved three groups of fishermen collaborating with reports on giant manta sightings for Forsberg’s team; and, so far, about 40 tourists have gone out with fishermen on pilot manta-spotting expeditions.

The Rolex Award will allow Forsberg to strengthen community engagement, expand the number of fishermen taking part in the project, create locally-driven ecological monitoring of mantas, and help to establish a secure legal framework for manta tourism linked to international tourism organizations.

Forsberg is in no doubt about the impact of her Rolex Award. “It’s definitely life-changing, and on so many levels,” she says. “It will allow us to take this project up to the next scale, nationally and internationally. This recognition is very important. Giant mantas are extremely vulnerable, and, in particular, marine environments are severely threatened. We need to engage more people in conserving them. There’s a lot of work to do.”

PROFILE

Born on 31 October 1984, Forsberg developed an early interest in the environment when her family relocated to Vancouver for five years. She was influenced by the strong current of environmental awareness in the city, a perspective that was reinforced by her parents.

Returning to Lima, she became passionate about marine fauna, which led to a BSc in biology at the Universidad Nacional Agraria La Molina, a period when she spent a considerable amount of time as a volunteer for environmental groups.

In 2006, Forsberg took part in a sea turtle conservation project in Ubatuba, Brazil, and later studied threats to sea turtles in Tumbes, on the northern coast of Peru, as part of her degree.

Engaging local volunteers in her undergraduate project helped Forsberg understand how to inspire local communities to participate in conservation. She successfully united the community, fishermen and local government in Tumbes to take on board the importance of conserving endangered sea turtles. The following year she founded a Marine Educators Network to formally introduce marine issues into the local educational system.

Building upon this work, in 2009, Forsberg established Planeta Océano, a non-profit organization whose key aims are to conserve and restore coastal and marine environments by promoting research, environmental education and sustainable, community-based development initiatives. With initiatives ranging from strengthening Marine Protected Areas to involving youth in research on critically endangered sawfish, she has now engaged thousands of people along the coast of northern and central Peru.

Forsberg's work has been nationally and internationally recognized. She became an Ashoka Fellow in 2011 and has won an award from Peru's Ministry of Environment and the World Wildlife Fund, among others. She is now pursuing a PhD by developing a multidisciplinary biological and socio-economic assessment of sharks and rays in Peru, under the guidance of Heriot-Watt University, Edinburgh.

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COUNTRY CHILE/GERMANY

AGE 46

LOCATION CHILE

PROJECT MARINE EXPLORATION TO PROTECT PATAGONIA'S FJORDS



Vreni Häussermann remembers the exact moment she fell in love with the deserted southern fjords of Chilean Patagonia that she now strives to protect. On a research trip in 1997, she and her research partner and later husband, Günter Försterra, happened upon an unusual landscape of stormy seas and snow-capped mountains. For Häussermann, “it was absolutely obvious that this was the most exciting place in the country to study.”

Not everyone would share her eagerness. Chilean Patagonia is challenging terrain to explore: the maze of fjords, channels and islands (the coast stretches 90,000 km, though the distance from north to south as the crow flies is just 1,500 km) is home to tempestuous winds and intense storms. Since the region has been poorly mapped, each expedition is literally a voyage of discovery, allowing Häussermann to find dozens of new species over the years.

Contrary to what Häussermann learned as a biologist – life is most diverse in the tropics, less so closer to the poles – the fjords are a biodiversity hotspot, teeming with spiky neon-orange sea anemones and blood-red corals. The reason for this seeming paradox, she says, is that the fjords contain a vast range of environments, veering from “highly saline to extremely fresh water, from intense sunlight to dark shadows, from protected bays to wave-battered shores”. All this means an extraordinary variety of species are able to live so closely together.

The fjords Häussermann studies are under threat. Salmon farming, until recently concentrated in northern Patagonia, is moving south. Fish farming is big business: the industry earns US\$2.5 billion from salmon exports every year, representing nearly 5 per cent of the country’s total exports. Farming is generally run unsustainably, releasing vast quantities of waste and chemicals that damage ecosystems and marine species indiscriminately.

This pollution is partly responsible for “destabilizing the ecosystem”, Häussermann says, and is probably contributing to an alarming rise in mass die-offs of animals. In 2015, Häussermann’s team discovered 337 dead whales on an expedition to a remote area. More species are experiencing these mass die-offs, including sardines, jellyfish and molluscs.

Häussermann wants the people of Chile to care about their environment as much as she does. She plans to engage them by developing a blog of her expeditions and to create a travelling exhibition on marine life.

This is the right time to involve communities, says Häussermann, since Chileans are becoming sensitized to these issues. Ecological crises are often an “economic disaster”, and since fish and shellfish die-offs mean fishermen increasingly struggle to earn an income, they have been demonstrating against the destruction of the ocean in a bid for government action. “This is the first broad environmental movement I have ever seen in Chile,” she says.

Until now, her scuba-diving expeditions have been restricted to depths of 30 metres. The Rolex Award will allow Häussermann’s team to use a remote-operated vehicle (a metre-square box equipped with thrusters, cameras and sensors) to depths of 500 metres. By uploading photographs and videos of marine life to GoogleEarth and YouTube, Häussermann and her team will be able to document a world never before seen by the human eye.

The exhibition and a short film about Chilean Patagonia will be presented at the fourth International Marine Protected Areas Congress in Chile in 2017, and Häussermann plans to use this opportunity to convince environment authorities to designate some areas of the fjord region as a marine-protected area. In 2006, she submitted a proposal to protect two fjords with unique cold-water coral banks. “Back then this did not receive much resonance, but times have changed,” says Häussermann.

After two decades in Patagonia, Häussermann’s motto is to expect the unexpected. “I have learned patience here. Things don’t always go to plan, so you always have a plan B.”

This philosophy is critical on expeditions, where weather conditions can switch in an instant from calm to stormy, or when equipment can fail unexpectedly. “You cannot take doubles of each piece of equipment, nor can you have anything repaired,” she explains. That is why the repair skills of her husband are invaluable. “I would not be able to repair a compressor if it failed, but he knows the right tricks to fix things and can come up with creative solutions.”

Häussermann and Försterra have two children, aged six and nine. On average they spend one week a month at the isolated Huinay Scientific Field Station, where she carries out her research. Their children are schooled at home. “For them, it’s totally normal to spend most of their day climbing, fishing, hiking, swimming and kayaking. This is their life in Patagonia.”

PROFILE

Born on 1 August 1970, Vreni Häussermann first visited Chile for one year of international studies in 1994, and completed her PhD from the Ludwig-Maximilians-University Munich in zoology in 2004. In 2009, she published the first marine field guide for organisms in the area. The illustrated guide, *Marine Benthic Fauna of Chilean Patagonia*, was prefaced by acclaimed underwater explorer Sylvia Earle.

Häussermann and Försterra's dedication was such that for five years at the start of their career in Patagonia, they worked as night carers for people living with disability to fund their marine biology work during the day. Just as they were questioning whether they would ever be able to make a living from biology, they were offered positions at Huinay.

Häussermann has been Scientific Director of the Huinay Scientific Field Station in Chilean Patagonia since 2003 and, in this capacity, has helped turn it into one of the leading research centres in the area. Her background as a biologist has equipped her to carry out important research on the region's species and biological diversity. She is affiliated to the Universidad Católica de Valparaíso and advises both the government and NGOs on conservation and marine resource management.

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CONOR WALSH

LAUREATE

COUNTRY IRELAND

AGE 35

LOCATION UNITED STATES

PROJECT DEVELOP SOFT ROBOTIC SUITS TO HELP STROKE VICTIMS WALK AGAIN



Millions of stroke sufferers and people with mobility problems may one day walk confidently again thanks to soft robotic suits, worn under their clothes. For Irish biomedical engineer Conor Walsh, “soft robotics” promise to revolutionize how patients worldwide recover from trauma.

Under development in Walsh’s laboratory at Harvard University in the United States, these light, close-fitting, textile, elastic and mechanized suits teach damaged nerves, muscles, tendons and joints to do their job again, more quickly, easily and efficiently than has ever been possible.

The soft “exosuit” developed by Walsh and his team at Harvard and Boston universities is a piece of clothing equipped with tiny yet powerful motors, pulleys, cables, movement sensors and intelligent software. It immediately reads what the wearer is trying to do and assists them to walk better by making gentle corrections to their movement and encouraging natural physical actions. This gives the patient greater stability and confidence, saves their energy and may one day speed the recovery process – outside the clinic as well as in it. “Patients love it,” Walsh says. “They say it helps take the process of walking out of your head. You just get on and do it.”

Walsh was a young engineer at Dublin’s Trinity College, wondering what to do with his future, when his eye was drawn by an article in a science magazine about robotic exoskeletons being developed in the US to help humans handle heavy loads. “It struck an immediate chord with me. I thought: ‘That’s super cool. I’d like to be a part of it,’” he says. So he applied to study at the Massachusetts Institute of Technology (MIT) under biomechatronics expert Professor Hugh Herr, and was accepted.

But when he tried on a rigid exoskeleton he developed with Herr for the first time, Walsh realized it was like being inside a robotic suit of armour. It was hard, uncomfortable and ponderous, and didn’t always move the way a human would. When he arrived at Harvard, he was inspired by the work of colleagues who were experts in soft materials. “I saw immediately that if you had a softer, lighter suit that accentuated the right actions, was comfy to wear and didn’t encumber you, it could have huge biomedical applications,” he says. “I began to wonder: can we make wearable robots soft?”

That was the light bulb moment, when the idea of marrying textile science with robotics was born. Rigid exoskeletons were designed to increase the powers of a normal, healthy human (or one who has been totally immobilized). Walsh wondered if the same principle could be used to overcome partial physical impairment: to teach the lame to walk freely again.

Worldwide, 15 million people suffer from strokes every year. Five million of them eventually relearn how to walk, slowly, painfully and often with great difficulty and long periods in “rehab”. The process for each patient places demands on the time of doctors, therapists and rehabilitation experts, as well as costs to the medical system. Early trials on 15 patients show the soft exosuit can improve gait mechanics and efficiency, both important for improving mobility in patients post-stroke. Longer term, the goal is to study the therapeutic effect with the system. “It’s not a replacement for normal rehabilitation therapy. It’s a new tool for extending and accelerating it,” Walsh explains. The soft suit can be worn in the patient’s own home, moving training and recovery beyond the clinic and its limited hours. What it does can still be monitored online by therapists, so the suit’s actions can be retuned to the patient’s changing needs.

Beyond the needs of stroke patients, there are also the sufferers of Parkinson’s disease, multiple sclerosis, spinal cord injury, ALS (amyotrophic lateral sclerosis), muscular dystrophy – and the enormous, ever-growing world population of elderly people with walking difficulties.

Walsh pays tribute for the success of the project today to the extraordinary collaborative fusion of his team – which includes electrical and mechanical engineers, IT experts, apparel and textile designers, biomechanicians, therapists, neuroscientists and clinicians. “With such a mix of skills, you solve problems really fast and often in unconventional ways,” he explains. “It’s a very inspirational environment to work in. The ideas come from all directions.”

Through partnerships with Harvard’s Wyss Institute and biomedical company ReWalk, he has been able to launch the soft exosuit on its path to eventual commercialization, fulfilling his passionate conviction that science should yield valuable and practical outcomes for humanity as quickly as possible. From proof of concept, which was achieved in early 2016, the medical version of the suit is expected to be ready in approximately three years, after clinical trials and regulatory approval.



The Rolex Award will assist by enabling Walsh to establish relationships with clinicians and patients around the world for future clinical trials, and to share the insights he has gathered in developing the soft exosuit through a website, publications and talks. In addition, Walsh is strongly committed to education and outreach, and will share knowledge from this project as widely as possible to engage and inspire more bright young minds in creatively solving the challenges of the present and future.

PROFILE

Conor Walsh is the John L. Loeb Associate Professor of Mechanical & Biomedical Engineering at the Harvard John A. Paulson School of Engineering and Applied Sciences, and a Core Faculty Member at the Wyss Institute for Biologically Inspired Engineering at Harvard University where, at the age of just 35, he heads the Harvard Biodesign Lab, which he founded in 2012.

Irish by birth (he was born on 22 September 1981) and education, with degrees in mechanical and manufacturing engineering from Trinity College, Dublin, Walsh was attracted to the field of robotics as a student, but finding it was not large in Ireland at the time, began to search further afield for opportunities.

He took his PhD in mechanical engineering at MIT before moving to Harvard to pursue a stellar career in biologically-inspired engineering and wearable technology that has garnered over 30 professional and public awards and prizes, over a dozen patent applications and more than 100 scientific publications.

Walsh's clinical co-investigators on the soft exosuit project are Dr Terry Ellis, Dr Louis Awad and Dr Ken Holt of Boston University and project leads Kathleen O'Donnell and Dr Ignacio Galiana of the Wyss Institute, in addition to a team of more than 20 diverse and talented individuals from his lab who operate at the leading edge of this novel field.

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COUNTRY INDIA

AGE 50

LOCATION LADAKH

PROJECT BUILD/DEVELOP ARTIFICIAL GLACIERS TO SUPPLY IRRIGATION WATER IN THE TRANS-HIMALAYAN COLD DESERTS



The Ladakh region of the Indian state of Jammu and Kashmir lies at roughly 3,500 m altitude between the Kunlun and Great Himalayan mountain ranges. Farmers among its population of 280,000 Buddhists, Shia Muslims and ethnic minorities face acute water shortages during the early crop-growing period between April and May. The huge outflows of glacial melt water – sometimes in the form of destructive flash floods – do not begin until after that crucial period.

Ladakhi engineer Sonam Wangchuk was certain that access to water in the desert landscapes around many high-altitude towns and villages of Ladakh could be improved if the huge seasonal outflows of glacial water could be frozen. Inspired by the experimental work of a fellow Ladakhi engineer, Chewang Norphel, he has developed a remarkably simple and effective system, creating what he calls “ice stupas”, conical ice mounds that behave like mini-glaciers, slowly releasing water for the growing season.

Norphel had created flat, artificial glaciers at heights of 4,000 m and above. But villagers were reluctant to climb that high to maintain them. It was a tantalizing situation: a logical water supply solution was available, but faced challenges.

And then Wangchuk experienced a eureka moment. It came as he walked past a bridge over a stream in the village of Phey, near the educationally and environmentally innovative SECMOL Alternative School, which he conceived and built in the 1990s. “I saw that there was ice under the bridge, which at 3,000 m was the warmest and lowest altitude in the whole area,” he recalls, “and this was in May. So I thought – we can keep ice right here in Phey if we protect it from the sun.

“But where do you get shade? I began to think about reflective materials, and then I started thinking about reducing the surface area for a given volume of ice, realizing that basically the sun needs surface area to heat things up.” He understood that conical ice-mounds would have minimal surface area, and would melt much more slowly than flatter fields of ice, even if they stood in sunlight.

Wangchuk has always believed that education and care for the environment should go hand in hand, and so, in 2013, he and his students from the SECMOL Alternative School began to create prototypes of the ice stupas. Wangchuk likens them to Tibetan religious stupas – elegant hemispherical or conical structures

with pointed tops that contain relics, such as the remains of Buddhist monks. The name ice stupa would, he believed, give a better sense of ownership for this concept among the local population.

The ice stupas are formed using glacial stream water carried down from higher ground through buried pipes whose final section rises vertically: due to the difference in height, pressure builds up in the pipe and the stream water passes along the pipe, flows up and out from its raised tip like a fountain into sub-zero air and then freezes as it falls to form a gradually growing ice stupa. In late spring the melt water is collected in large tanks, then fed onto planted land using drip-irrigation pipes.

In 2014, there was an encouraging sign: the seven-metre tall first prototype ice stupa lasted until 18 May. Wangchuk was invited by His Holiness Drikung Kargyud Chetsang Rinpochey and the monks of the Phyang monastery, a few kilometres north of Phey, to build ice stupas to alleviate serious crop-water shortages. Together with the monastery he set up a crowdfunding campaign that paid for a 2.3 km pipeline to bring glacial stream water down to the village; the resulting ice stupa grew to a height of 20 metres. In 2015, it lasted until early July, supplying 1.5 million litres of melt water to the 5,000 saplings planted by all the villagers and monks.

The success of that ice stupa triggered Wangchuk's latest, highly ambitious project in Phyang to create up to 20 ice stupas approximately 30 m high, each capable of supplying 10 million litres of water. He also plans a substantial tree-planting programme once the new water supply system is established.

"The Rolex Award funds will support the project and promote ice stupas as a climate-change adaptation and desert-greening technique," says Wangchuk.

He is currently working on establishing an alternative university on the 65-hectare land donated by the village that will engage youth from Ladakh, the Himalayas and other mountains of the world in finding their own solutions to the challenges facing them – a spirit that is epitomized by the ice stupa project.

PROFILE

Born on 1 September 1966 in the village of Uleytokpo in Ladakh, Sonam Wangchuk's commitment to conservation began while he was studying mechanical engineering at the National Institute of Engineering in Srinagar, Kashmir, in the mid-1980s.

He became fascinated by mirrors and lenses after reading about them in his school textbooks, and then took a solar-energy study option during his engineering studies – which, in turn, triggered his interest in renewable energy. "And from there, I was completely into environmental issues," he recalls. He later did a two-year specialization in Grenoble, France, studying earthen architecture.



Much of his career has focused on developing solutions to problems encountered by communities living at high altitudes such as education, climate-responsive housing and now access to water.

His journey into education reform began when he had to find a way to finance his engineering course and started teaching during his college holidays. "I started thinking about things that could make a real impact on people's lives, mainly through meaningful education," he says. "All these young Ladakhis – 95 per cent of them – were failing in the educational system owing mainly to their being a cultural and linguistic minority in India."

In 1988, he co-founded SECMOL, the Students' Educational and Cultural Movement of Ladakh, and slowly reduced the failure rate to 25 per cent; and then, in 1994, he led the establishment of a solar-powered, student-built, student-run alternative school where teenagers who still fail in the conventional education system get a second chance. It was at this school that the ice stupa and many such innovations were born.

Wangchuk's interest in educational reform has resulted in his appointment to the Jammu and Kashmir State Education Advisory Committee, the Indian government's National Governing Council for Elementary Education and several other similar assignments across South Asia.

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COUNTRY UNITED KINGDOM

AGE 29

LOCATION GREENLAND/UK

PROJECT EXPLORE AND COMMUNICATE HOW POLAR ICE MICRO-ORGANISMS HELP SHAPE OUR WORLD



Since he first set eyes on it, the Arctic has exerted an irresistible allure for Joseph Cook: “It’s a captivating landscape, serene, with giant rivers that carve their way through the ice, vivid neon blues, pinks, greens – it’s not the empty, white wasteland people imagine. For me, there is also the fascination of exploring an immense living system at the extreme end of life on Earth, and which may affect our own future.”

Dr Cook is a glacial microbiologist, an explorer of the microscopic “frozen rainforest” on the surface of the Greenland ice sheet. The top few metres of the Arctic’s ice are a biological realm whose dimensions, role and impacts are still a scientific mystery. His Ice Alive mission aims to bring to light how this relatively unknown ecosystem helps shape the ice of the northern hemisphere, how it may drive changes in the Earth’s climate, nutrient and carbon cycles, which in turn affect humanity.

“It’s estimated there are a hundred million billion trillion micro-organisms living in the top few metres of Earth’s ice. Through their colour, they affect how much solar energy Earth’s ice reflects back into space, in turn influencing how fast the ice melts,” Cook explains. “These tiny organisms are, in my view, both amplifiers of climate change and architects of the ice surface. That’s why we have to understand what they do and how they do it.

“Greenland is the ideal natural laboratory to study the fundamental processes controlling life on ice that are likely transferable to the mountain glaciers that are expected to disappear completely within decades.”

Cook has so far undertaken five field seasons in the Arctic. His Rolex Award funds will take him and his team onto the Greenland ice sheet in 2017 to explore how ice microbes engineer their survival in this hostile environment, their role as climate influencers and the possible services they can provide to humanity. The team will carry out field studies of the “cryoconite holes” which the microbes sculpt into the ice as their habitat – and how these in turn influence glacial physics and ecology. These holes are thought to cycle carbon at comparable rates to the soils of the Mediterranean.

Their field samples will be analysed back in the UK in a series of biogeochemical, microbiological, metabolic and molecular tests, informing new numerical models designed to shed new light on bio-glaciological processes from the micro to global scale.

“Unlike most life on Earth, these organisms are somehow adapted to be highly active at temperatures from 0.1 to 1 degree. This means they probably contain genes and chemical pathways of great value to humanity – such as cold-tolerance, novel antibiotics, structures to absorb pollutants, and proteins which capture light. They may have hundreds of valuable end uses,” he says.

A passionate science communicator, Cook plans to share his newly won knowledge with the public through a series of films, public talks, museum and art gallery exhibitions.

For Joseph Cook, the Arctic is not the final frontier, but an under-appreciated part of Earth’s inner space, ripe for exploration, discovery and learning.

PROFILE

Since he began rock climbing at age 11, Joseph Cook has been captivated by the great outdoors, and imbued with a spirit of exploration and discovery. His first visit to a scientific camp on the Greenland ice sheet was, in his words, “a life-changer”, cementing his determination to illuminate the unseen world of ice microbiology with the light of science.

Cook, who was born on 23 November 1986, graduated in physical geography from the University of Sheffield in 2008, before doing his PhD in microbial carbon dynamics on glaciers and ice sheets. In 2013, he joined the University of Derby as lecturer in geoscience. In 2016, he returned to the University of Sheffield as a full-time research scientist. He has won more than a dozen awards, grants and scholarships, has published prolifically on glacial biology, and is an eloquent and passionate communicator of his research to the public.

Part of his Rolex Award will fund the making of a documentary film, *Ice Alive*, a sequel to his prize-winning short film, *Life on Earth’s Cold Shoulder*. He is already arranging public lectures, feature articles, museum exhibits and collaborations with artists and writers to share with the public the fascinating and fragile miniature world of Arctic micro-organisms.

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COUNTRY NIGERIA

AGE 30

LOCATION NIGERIA

PROJECT INVENT CLOUD-BASED TECHNOLOGY TO MINIMIZE FOOD WASTE AND PROVIDE AFFORDABLE FOOD TO THE POOR



When Oscar Ekponimo was 11 he went to school hungry. That year, his father had a partial stroke, causing him to lose his job, and with it, the family income. “For the next three years we had little food in the house,” he recalls. “If we had one small meal at the end of the day, it was a good day. I recall one instance when all I ate in a 48-hour period was a biscuit snack a friend shared with me at school.”

Ekponimo’s home is Nigeria, Africa’s most populous country. Despite being the continent’s largest economy, seven in 10 Nigerians survive on less than US\$1.25 per day. For an estimated 13 million Nigerians, hunger is a daily reality. Accessible social security is virtually non-existent, which means it is easy to slip into poverty. “Those years of hunger were tough. The feeling of deprivation unbalanced me, deeply affected me emotionally. Fortunately the economy improved and my father was able to find work again, but I resolved to use what skills I had to find ways to prevent others experiencing the same hunger,” says Ekponimo.

A software engineer in the capital Abuja, Ekponimo devotes up to 30 hours every week, on top of his day-time job, developing solutions to alleviate hunger. “I wanted to find an affordable source of nutrition for economically disadvantaged people. I could see there were a lot of organizations trying to solve the problem, but I also saw so much food being wasted. If food wastage can be addressed, automatically food availability will improve and the stress on natural resources will reduce.”

Ekponimo developed a cloud-based software application, Chowberry, that reduces food waste and redistributes products to people in need. The application enables retailers to scan item barcodes on packaged food items three months before expiry date. As the end of shelf-life approaches, the software generates notifications, initiating discounts that increase as the products approach their final date. Low-income consumers and partnering food-relief agencies are notified where discounts are being offered.

“I saw an opportunity to provide affordable nutrition to millions of people while providing retailers with a sustainable system for managing the end of shelf-life. This is a win-win solution,” explains Ekponimo.

He has completed a successful three-month pilot with 300 users and 20 partner retailers within Lagos and Abuja, feeding about 150 orphans and vulnerable children. In June, Chowberry signed its first official retailer partner, Ekponimo’s first step in his ambition to reach 50,000–100,000 low-income households, and ultimately alleviate hunger for many Nigerians.

“A big challenge for us is reaching out to the very poor,” says Ekponimo. “An estimated 80 per cent of people have access to mobile phones, which helps. But to reach really poor people, we need partnerships with community organizations and food-relief agencies, such as Save the Children Fund, who already have access to them.”

To achieve his goals, Ekponimo realizes Chowberry needs to become a sustainable social enterprise. Rolex Award funds will go towards hiring engineers to upgrade the software, ensuring the application is more robust, and scaling up the organization by adding more retail partners.

“When I think of the millions of people who are food-deprived, counting on me to give them some relief, to help alleviate their suffering, I am driven to make Chowberry a success. I can never throw in the towel,” he says.

PROFILE

Born on 17 April 1986, Ekponimo earned a Bachelor of Science degree in computing from Nigeria’s University of Calabar and has completed an online course in technology entrepreneurship at Stanford University in the United States. He is passionate about IT, and has developed software solutions for private enterprise and national security establishments.

Alleviating hunger has always been at the top of his agenda. At university, he and friends set up Blue Valentine to distribute warm meals to indigent street kids on 14 February. In 2013, this initiative evolved into SalvageHub, the precursor to Chowberry that earned him the International Telecommunications Union Award for technology innovation. Ekponimo also runs Food Drive, an ad hoc Chowberry initiative where he and other volunteers collect products within a week of expiry and distribute them to orphanages and homes for the elderly.

“As an IT professional, I have always viewed technology as a unique tool for solving many of Africa’s challenges,” Ekponimo says. “It is a medium to express creativity and passion with limitless possibilities, whether it be redefining industries or fostering sustainable development and human advancement.”

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COUNTRY UNITED STATES

AGE 24

LOCATION CHINA, SHAANXI PROVINCE

PROJECT EMPOWER VILLAGE WOMEN TO REDUCE WATER AND SOIL POLLUTION IN RURAL CHINA



Christine Keung, the daughter of Chinese immigrants to the United States, was the first person in her family to graduate from university. Her success did not stop there. She went on to win a National Science Foundation research grant at age 19, and, in 2014, was admitted to Harvard Business School under its high-potential student programme. But she started thinking about what she could do for China. “I knew I could use my education either to insulate myself from the problems of the world, or to become a force to address them.”

Keung made her first trip to Shaanxi Province, in Northwest China, in 2012. “It was amazing to see cave dwellings I knew my father had experienced living in as a young man.” She also witnessed environmental pollution. “I saw, first-hand, haphazard dumping of used medical supplies and pesticides in the largest tributary of the Yellow River.”

In 2014, a Fulbright scholarship gave Keung the opportunity to visit China for 10 months, where she became aware of the extent of China’s rural pollution and the contributing factors. “Men migrate to the cities for work, women and children are left to bear the disproportionate cost of environmental degradation,” says Keung. She decided to focus her research in China around this issue.

Her ultimate goal is to bring government representatives and rural stakeholders together to discuss options for a long-term solution to dealing with hazardous waste. But in the immediate term, rural Chinese women are key to Keung’s programme, and she aims to empower them to become agents of change. “I see transformed communities where women have the knowledge, the motivation and the ability to preserve, protect and invest in their land,” she says. As families do not have ownership of the land they work, she views it as important to tie the role of women “to something they do care about like the health of their kids”, she says.

With the support of the Northwest Socioeconomic Development Research Center (NSDRC) – a research centre affiliated to Shaanxi Normal University – and local governments, Keung and her team are providing training for women’s groups on safe methods of recycling agricultural, chemical and medical wastes, implementing a pilot programme that tracks waste from points of purchase to storage, usage and disposal. Village doctors and farm suppliers will also receive training on recycling and treatment of waste and will develop a waste inventory system that they will pilot themselves.

“My team will lead the organization and the training of the workshops, and Shaanxi Normal University students will be field agents to support the women’s groups,” she says, adding that eventually the women’s groups will receive training in soil and water sampling to gather baseline data.

Working with the NSDRC, Keung has also travelled to more than 60 villages to interview farmers and rural doctors and to work with them to address water contamination. Her team today includes researchers from the Chinese Academy of Sciences, Shaanxi Normal University, the NSDRC and the University of Pittsburgh.

PROFILE

Born on 5 April 1992, Keung’s earliest years were spent in Shanghai and Hong Kong, but she was educated in the US after emigrating with her parents at the age of four. She graduated with a BA from Wellesley College, majoring in economics, and, in 2014, she was made a Fulbright Research Fellow. More recently, she was granted deferred acceptance to Harvard Business School through its unique 2+2 Program, designed to identify high-potential undergraduate students from around the world to attend the school for two years following graduation. Keung says she plans to defer the programme to continue the work she started in China.

Keung’s fascination with Northwestern China stemmed from her parents’ experience during the Cultural Revolution. Her father’s experience as a “sent-down” youth in Xinjiang, a Uygur Autonomous Region of China, took him from the villages of the autonomous Kazakh prefecture of Ili on the border of Kazakhstan and Russia to the oilfields of Karamay.

Fluent in English, Mandarin and two Chinese dialects (Cantonese and Shanghainese), in 2014, Keung was named one of the top 25 emerging leaders in US-China relations under the age of 25 by Yale University’s *China Hands* magazine, and, in 2015, was selected to be a delegate at Stanford University’s Forum for American-Chinese Exchange.

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COUNTRY JAPAN

AGE 29

LOCATION GLOBAL

PROJECT EXPAND A CROWDSOURCED, ONLINE SIGN LANGUAGE DICTIONARY



At the age of 14, by chance, Junto Ohki saw a television programme about sign language. He was mesmerized. “I thought it was beautiful and I wanted to learn it too,” he says, “but nobody in my family was deaf and used sign language and I didn’t know anyone else who used it either.” Ohki had no luck finding a school that taught it and almost gave up. But he persevered. At age 20, while at Keio University, he formed a sign language club. (Even though, he says, “I didn’t know sign language.”) Five years later he became a certified sign language interpreter in Japan.

According to the World Federation of the Deaf, approximately 70 million people worldwide use sign languages. They are divided by 126 different languages, each with its own grammar and vocabulary, just as the speakers of spoken languages are. However, unlike spoken languages, there are very few bilingual dictionaries to bridge gaps between sign languages.

In 2011, Ohki set about remedying this problem by creating SLinto, which he says is the world’s first sign language online database using a specially adapted keyboard. Its aim is to crowdsource signs from sign language users and build a database dictionary with the aim of breaking down the barriers between Deaf communities and promoting social inclusiveness.

Today, with more than 3,200 signs, SLinto is Japan’s biggest database of signs. Users who know what a signed word looks like but do not know what it means can use the website keyboard to choose from finger and hand shapes, and then select the sign they want from candidate video clips.

“In real life, signs are 3D,” says Ohki, “but the keyboard makes them 2D, which means elements are missing and you have to select the actual sign you’re looking for from the videos.”

According to Ohki, SLinto’s crowdsourced nature allows for the creation of new signs, making it possible for sign languages to evolve richer vocabularies and also serve as a platform that provides Deaf people with access to basic social services.

SLinto also offers business synergies. “There are no signs for the most recent electronic products, or for all the different kinds of motor vehicles, for example, so a company could hold a competition using SLinto to get a sign language name for their business or for their products,” he says.

Ohki's goal over the next two years is to reach 10,000 signs in Japan, 7,000 in the US and 3,000 in a developing country. "My first developing country choice is India because it's such a big market and because we've already had expressions of interest from Deaf schools there," he says.

In the US, the Gallaudet University for the Deaf and Hard of Hearing is helping him test the dictionary, and Ohki says the US version of SLinto, which is undergoing development to make it fully functional, has the support of one of the country's most senior American Sign Language (ASL) interpreters.

"These numbers and these countries are just short-term goals," says Ohki, who maintains that SLinto has the potential to be a groundbreaking resource that breaks down the barriers between sign languages worldwide.

In the meantime, Ohki is improving SLinto's functionality to make it possible for sign language users to translate between American Sign Language and Japanese sign language and, in targeting multilingual India, between, say, the sign languages of Mumbai and New Delhi.

PROFILE

Born on 15 June 1987, Ohki graduated from Japan's Keio University with a bachelor's degree in environment and information studies. After starting out learning sign language as a hobby, in 2013, he became a certified sign language interpreter in Japan. He is president of ShuR, a company he founded in 2008 while at university. Initially, ShuR helped Deaf people by providing interpreting and information services through tablets and mobile phones. Today, ShuR's services, which are mostly free for Deaf users, continue to be used in hotels, restaurants and train stations in Japan, but ShuR is largely focused on developing the SLinto online sign language dictionary.

In 2012, Ohki was named an Ashoka Fellow – the first in East Asia – and a World Economic Forum Global Shaper, and was selected as one of *Forbes* "30 under 30" social entrepreneurs.

"It's not that Deaf people are less skilled," says Ohki. "Society makes them 'disabled', because society is only for hearing people. I want to change that."

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COUNTRY FRANCE/TUNISIA

AGE 29

LOCATION TUNISIA

PROJECT COMBAT DESERTIFICATION AND REDUCE POVERTY AMONG FARMERS IN TUNISIA



As a young girl growing up in France, Sarah Toumi dreamed of becoming a leader who could make the world a better place. Her passion to help others was kindled when, from the age of nine, she accompanied her Tunisian father to his birthplace in the east of the country during holidays. There she organized homework clubs and activities for children.

Toumi witnessed first-hand the destructive effect of desertification. “Within 10 years rich farmers became worse off, and in 10 years from now they will be poor. I wanted to stop the desert in its tracks.” A decrease in average rainfall and an increase in the severity of droughts has led to an estimated 75 per cent of Tunisia’s agricultural lands being threatened by desertification.

Toumi recognized that farming practices needed to change. She is confident that small land areas can yield large returns if farmers are able to adapt by planting sustainable crops, using new technologies for water treatment and focusing on natural products and fertilizers rather than pesticides.

In 2012, Toumi consolidated her dream to fight the desert. “My father died and I realized I had to choose between my fears and my expectations. I decided to dedicate my life to the lives of others,” she recalls. That year, she moved to Tunisia, and set up Acacias for All. “I want to show young people in rural areas that they can create opportunities where they are. Nobody is better able to understand the impact of desertification and climate change than somebody who is living with no access to water. I am reminded daily of the consequences of inaction.”

With low rainfall, Tunisia has been depleting its aquifers at such a high rate that it is feared there will be no water left in 50 years. The groundwater has a high salt content, which is ill-suited for irrigating the traditional local crops of olives and almonds. Toumi’s approach is to advise farmers to choose crops that are better suited to the new environment. To this end, acacia trees spearhead Toumi’s sustainable farming philosophy, as their long roots not only bring to the surface essential nitrogen but also fresh water, reducing the salt density of the soil, revitalizing the land, and creating a greenbelt to prevent further erosion. To supply income, the *Acacia raddiana* produces Arabic gum within four years, while Moringa powder is produced from the leaves of another plant, *Moringa oleifera*, after only two months, offering quick returns.

Acacias for All encourages farmers to become economically self-sufficient, organizing them into cooperatives to manage the new farming cycle, from planting to selling. “These practices provide new economic opportunities,” Toumi explains. If farmers plant 20 different species of tree on a single hectare of land (including acacia, aloe vera, olive, almond, date palm, carob, as well as vegetables and medicinal plants), they can expect to earn US\$20,000–\$30,000 annually.

By September 2016, more than 130,000 acacia trees had been planted on 20 pilot farms, with farmers recording a 60 per cent survival rate. Toumi estimates that some 3 million acacia trees are needed to protect Tunisia’s arable spaces. She expects to plant 1 million trees by 2018, restoring 50,000 hectares of land to fertility. In the next couple of years Toumi hopes to extend the programme to Algeria and Morocco.

PROFILE

Sarah Toumi was born in France on 16 October 1987 to a Tunisian father and a French mother. In 1998, she co-founded an NGO with her father focusing on children’s rights in France, which she later helped replicate in Tunisia. While studying at Paris-Sorbonne University, Toumi founded DREAM, introducing students to social entrepreneurship. The organization is still operated by the university.

During visits to Tunisia, Toumi noticed that many women had little economic independence or freedom, allowing, she says “little space for dreams and hopes”. The result was Dream in Tunisia, a space where women can develop their potential. Today the NGO incorporates a youth centre, a women’s centre and an entrepreneurship centre.

An Ashoka and Echoing Green Fellow, Toumi says she is driven to fight gender inequality, environmental degradation and poverty. “I am led by the vision of a fairer Tunisia where the democratic transition happens softly because solidarity and entrepreneurship allow for the inclusive approach of unemployment, poverty and environmental issues. Social entrepreneurship can support the sustainable development of marginalized rural areas, with all profits reinvested to plant more trees, as well as in educational, health and citizenship programmes. In this way I believe we can improve people’s lives for the long term.”

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JURY MEMBERS

2016 Rolex Awards for Enterprise

Ghada Amer



Technology specialist and development advocate

Recognized for her many achievements in the field of electrical engineering, Bahrain-born Ghada Amer is known internationally for her pioneering work as an advocate of social and economic development. Singled out as one of the “World’s 100 Most Powerful Arab Women”, she is Vice President of the Arab Science and Technology Foundation.

Antje Boetius



Marine biologist

German marine biologist Antje Boetius is renowned for her contributions to the understanding of life in the Arctic Ocean. She is Professor of Geomicrobiology at the University of Bremen and leader of both Bremen’s Max Planck Institute for Marine Microbiology and the Joint Research Group on Deep Sea Ecology and Technology of the Alfred Wegener Institute for Polar and Marine Research in Bremerhaven, Germany.

Maria Emilia Correa



Environmentalist

Recognized as a leader in sustainability, Colombian Maria Emilia Correa has spent her life promoting the concept that business should be a positive force for sustainable development. She is co-founder and “choreographer” of Sistema B, a movement of Latin American entrepreneurs that supports companies using the power of business to solve social and environmental problems.

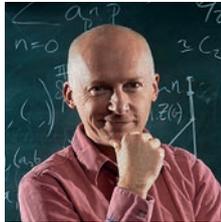
David Doubilet



Underwater photographer

One of the world’s most celebrated underwater photographers, David Doubilet, a *National Geographic* photographer, is an explorer, pioneering conservation photographer, marine naturalist and protector of the ocean habitat. He is contributing editor and an author of a dozen titles, including the award-winning *Water Light Time*. Doubilet is also a founding member of the International League of Conservation Photographers.

Marcus du Sautoy



Mathematician and science communicator

Known worldwide for his work in popularizing mathematics through his articles in Britain’s leading newspapers, BBC Radio and TV programmes and well-received books, Professor Marcus du Sautoy is widely considered one of the United Kingdom’s leading scientists. He is currently a Fellow of New College, Oxford, and has held the Simonyi Professorship for the Public Understanding of Science there since 2008.

David Edwards



Biomedical engineer and innovator

American chemical engineer David Edwards is celebrated for his technological advancements. A professor of the practice of biomedical engineering at Harvard, Edwards has developed numerous innovations, including pioneering drug delivery methods, as well as new approaches to learning through the collaboration of artists and scientists at his Le Laboratoire in Paris.

Chris Hadfield



Astronaut

Astronaut, engineer, military pilot and author, Colonel Chris Hadfield has brought the marvels of science and space to millions during his three historic space flights and 2,600 orbits of Earth, harnessing the power of social media to make outer space more accessible. He was the first Canadian to walk in space and to command the International Space Station.

Stefan Hell



Physicist

Romanian-born German physicist Stefan Hell won the 2014 Nobel Prize for Chemistry for the co-development of super-resolved fluorescence microscopy. Since 2002, he has been a director of Germany’s Max Planck Institute for Biophysical Chemistry, where he heads the Department of NanoBiophotonics. He also directs the Optical Nanoscopy division at Heidelberg’s German Cancer Research Center.

Segenet Kelemu



Agricultural scientist

Segenet Kelemu, an Ethiopian agricultural scientist who specializes in molecular plant pathology, is passionate about solving ecological food-crop production challenges through science. After decades of directing world-class laboratories and applying cutting-edge science both outside and in Africa, today she heads one of Africa’s largest insect research institutions, the International Centre of Insect Physiology and Ecology (icipe) in Nairobi, Kenya.

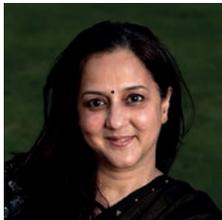
Johann Olav Koss



Social entrepreneur

Four-time Olympic gold medallist and an internationally recognized social entrepreneur, Norwegian-born Johann Olav Koss has drawn on the skills and determination that made him a great athlete to create Right To Play International, a non-governmental, humanitarian organization that uses sport and play as a tool for the development of children in disadvantaged areas worldwide.

Rohini Nilekani



Philanthropist and social entrepreneur

Hailed for her path-breaking initiatives in her native India, in areas ranging from water conservation to education and environmental sustainability, Rohini Nilekani has parlayed her wealth into championing philanthropic endeavours throughout the country, including as chairperson of Arghyam, a foundation that implements water and sanitation projects in more than 7,000 villages.

Joseph J. Y. Sung



Gastroenterologist and University Vice-Chancellor

Vice-Chancellor and President of the Chinese University of Hong Kong, Professor Joseph J. Y. Sung is a renowned gastroenterologist whose pioneering research has earned him the reputation as a world leader in his field. A popular vice-chancellor, he believes in the value of a holistic education. Sung was named a *Time* "Asian Hero" in 2003 for combating SARS.

FACT SHEET

Programme Overview

The Rolex Awards for Enterprise were created in 1976 to foster a spirit of enterprise and advance human knowledge and well-being. Presented every two years, they support pioneering work in five areas:

- science and health
- applied technology
- exploration and discovery
- the environment
- cultural heritage

Winners are innovators who typically work outside the mainstream and often have limited access to traditional funding. Rather than reward past achievements, the Rolex Awards provide financial assistance and recognition to individuals embarking on new ventures or carrying out ongoing projects.

Grants of 100,000 Swiss francs are awarded to Laureates and 50,000 Swiss francs to Young Laureates. All winners also receive a Rolex chronometer and benefit from an international publicity campaign. The grants must be used to complete projects.

A series of awards devoted to Young Laureates was introduced in 2010 to encourage the next generation of leaders.

The Awards are open to individuals of any nationality or background.

Selection Process

Winners are chosen by a Jury of international experts who themselves embody the spirit of enterprise that the Awards seek to promote. The Jury is international, interdisciplinary and independent. A new panel is convened for each Awards series.

Projects are judged on their feasibility, originality, potential for sustained impact and, above all, on the candidates' spirit of enterprise. Applicants must show how they will use a Rolex Award to leverage the impact of their projects, and how, through initiative and ingenuity, they will benefit mankind.



History of the Rolex Awards

The Rolex Awards for Enterprise were established in 1976 to commemorate the 50th anniversary of the Oyster chronometer, the world's first waterproof wristwatch.

In the 40 years since the Awards for Enterprise were founded, Rolex has supported the work of a global network of visionaries. Winning projects range from technological and scientific inventions to protecting rare and endangered species – from the tiny seahorse to the giant whale shark – and habitats, from the Amazon rainforest to forest ecosystems in Sri Lanka. They also focus on reviving time-honoured practices – from agriculture in the Andes and Africa – to traditional healing in the Himalayas, along with providing safe, affordable water, energy, shelter, food and medicine in developing countries.

Rolex Philanthropy

Since it was founded a century ago, Rolex has championed individual excellence and achievement. In the 1950s, the company began assuring the reliability of its watches by asking leaders in sports and exploration to test them under extreme conditions – from the summit of Mount Everest to 10,000 metres underwater.

The company has promoted excellence through two unique philanthropic programmes: from 1976, the Rolex Awards for Enterprise, and, from 2002, the Rolex Mentor and Protégé Arts Initiative.

The Rolex Arts Initiative is a global programme that pairs emerging artists with masters in architecture, dance, film, literature, music, theatre and the visual arts for a year of intensive collaboration. The aim is to help ensure that artistic excellence is passed on to the next generation.

By fostering innovation in science, exploration, conservation and the arts, both the Rolex Awards and the Rolex Arts Initiative advance the work of individuals who exemplify the vision, ingenuity and excellence that define the Rolex brand.

ROLEX INSTITUTE

Encouraging individual excellence through philanthropy and education

Driven by an unwavering pioneering spirit, Rolex SA is renowned for its many technical innovations in watchmaking that have made it a symbol of excellence around the globe. The company brand values of quality, know-how and individual achievement pervade all of its endeavours. Rolex is closely linked to many of the world's highest achievers and, since its beginnings, has supported visionary men and women in a variety of fields.

The Rolex Institute embodies this philosophy. Comprising the company's philanthropic programmes and educational initiatives, it aims at recognizing excellence and making a significant contribution to society. The Institute's activities include the following programmes:

The Rolex Awards for Enterprise were created in 1976 to mark the 50th anniversary of the Rolex Oyster – the world's first waterproof wristwatch. They support pioneering men and women taking on major challenges in order to benefit mankind. The Awards help forward-looking individuals worldwide to carry out groundbreaking projects advancing human knowledge and well-being in the areas of science and health, applied technology, exploration, environment and cultural heritage.

In 2010, Rolex expanded the Rolex Awards to include Young Laureates, to support pioneers between the ages of 18 and 30.

The Rolex Mentor and Protégé Arts Initiative brings together promising talents with world-renowned masters in seven artistic disciplines for a year of one-to-one collaboration. Since its launch in 2002, this programme has built a remarkable international artistic community.

The Rolex Institute underwrites highly respected educational activities in the watchmaking and technological fields. The company was, for example, the major private funder of the Rolex Learning Center at the École polytechnique fédérale de Lausanne (EPFL) in Switzerland.

Rolex-funded watchmaking schools in Pennsylvania (United States) and Mumbai are designed for professional watchmakers and prepare them for the most demanding requirements of the industry. Graduates are not obliged to work for Rolex.