ROLEX
Awards for Enterprise

NEETI KAILAS

COUNTRY INDIA
AGE 29
PROJECT LOCATION INDIA
PROJECT INCREASE SCREENING OF NEWBORN BABIES FOR HEARING LOSS

While her classmates at India's prestigious National Institute of Design (NID), in Ahmedabad, Gujarat, were creating stylish new versions of household products, or innovative fabrics, Neeti Kailas was redesigning the bedpan for India's crowded public hospitals. "To me, design is about problem solving, and thinking about how I can have maximum impact on society. In a country like India, that's never going to happen by designing the next lemon squeezer," she says.

The bedpan project sparked a passion to use design to transform health care. Together with her engineer husband Nitin Sisodia, Kailas launched the Sohum Innovation Lab, and the lab's first product is a device to screen babies for hearing impairment. Kailas is personally connected to the project, through an Indian childhood friend who was born deaf. "She's had a totally different life to the rest of us, with very few opportunities," says Kailas.

Her friend is just one of many. Every year, some 100,000 hearing-impaired babies are born in India, but there is no routine screening countrywide to detect the condition, and the existing tests are expensive and require skilled health-care workers. Early screening is vital because, if left unaddressed, a hearing impairment can impede the development of speech, language, and cognition by the time a baby is six months old.

Kailas's device works by measuring auditory brainstem response. Three electrodes are placed on the baby's head to detect electrical responses generated by the brain's auditory system when stimulated. If the brain does not respond to these aural stimuli, the child cannot hear. The device is battery-operated and non-invasive, which means babies do not need to be sedated, as some tests in the past have required. Since the equipment is inexpensive and portable, it can be used anywhere. "Another of the device's major advantages over other testing systems is our patented, in-built algorithm that filters out ambient noise from the test signal. This was really important for us because, if you've ever been to health clinics in India, you'll know how incredibly crowded and noisy they are," says Kailas.

The unit is still a prototype, and Rolex Award funds will allow Kailas to start clinical trials later this year. Her plan is to launch it in 2016, first focusing on institutional (hospital) births, with the aim of screening 2 per cent of such births in the first year, before scaling up on an annually accrued basis.

If the clinical trials are a success, Kailas and her partner will be embarking on an enormously ambitious project that, Kailas hopes, will ultimately allow every single baby born in India to be screened for hearing impairment. Kailas acknowledges that ensuring this happens in a country like India – with its complex, chaotic healthcare system – is "a tall order", but she has devised an innovative approach to rolling out the technology through paediatricians, maternity homes, health-care workers, and entrepreneurs, who will buy the devices and then charge a small fee for every test. A door-to-door service will be particularly important in rural areas, where health clinics are scarce. While it is an untested approach, Kailas is confident that it will work. "Indians don't need much encouragement to become entrepreneurs. When the IT boom hit, for example, Internet cafes mushroomed all over the country," she says.

Kailas hopes that the screening programme can be adapted to include screening for impaired vision in newborns, or for identifying high-risk pregnancies.

PROFILE

Born on 22 April 1985, Kailas has a Graduate Diploma in Product Design from the National Institute of Design, India, and a Master's in Industrial Design from the Art Center College of Design, California, United States. From the beginning of her studies, Kailas focused strongly on health-care issues, designing a portable ultrasound machine, among other projects, while studying for her diploma.

After studying at INSEAD near Paris in 2011, she joined Nestlé as a designer in Switzerland and later worked with the company in the United States as a design strategist. Her experience also includes a role at the TVS Motor Company in India, where she designed an award-winning sustainable electric-hybrid scooter.

Sohum Innovation Lab is a direct result of the complementary skills of Kailas and her husband, Nitin Sisodia. "I've never felt as intensely motivated as I do working for Sohum. It can be hard at times, but we would rather give it our best shot and fail than not try at all. Our vision is to screen every single baby born in resource-poor settings, so that the hearing impaired are identified early, get timely intervention, so that speech loss can be prevented and they get equal access to education and employment."

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OLIVIER NSENGIMANA

COUNTRY RWANDA
AGE 30
PROJECT LOCATION RWANDA
PROJECT SAVE ENDANGERED GREY CROWNED-CRANES TO CONSERVE RWANDA'S BIODIVERSITY

Olivier Nsengimana graduated top of his class at veterinary school – after growing up in post-genocide Rwanda – and had his pick of government and lucrative industry positions. But his passion was saving Rwanda's endangered animals. "As soon as I was out in the field, working with these animals, I thought, wow, this is me, conservation is what I was meant to do with my life."

He chose to volunteer as a field veterinarian for Gorilla Doctors as a way of giving back to his country. While the gorilla is a famously iconic symbol of Rwanda's endangered species, many others are also under threat from poaching and habitat encroachment. Nsengimana is on a mission to save the grey crowned-crane, an endangered bird that is fast dying out in Rwanda because of illegal poaching.

In Rwanda, the crane is a symbol of wealth and longevity. With a golden tufted crown and a flame-red spot on its neck, it is a desirable pet for Rwanda's elite. Despite a ban by the Rwandan Government on killing, injuring, capturing or selling endangered species, locals poach the birds and sell them as cheaply as chickens in markets. The result has been devastating for Rwanda's only species of crane. Its population has fallen by 80 per cent over the past 45 years, causing the International Union for Conservation of Nature (IUCN) to raise the threat listing for the bird to "endangered" in 2012. While there are grey crowned-cranes in other countries, only 300–500 are thought to exist in the wild in Rwanda, mainly at Rugezi Marsh, a protected area in the north of the country.

Nsengimana will spend the next two years dividing his time between field work with conservation organization Gorilla Doctors and trying to save the grey crowned-crane through two very different approaches. The project's primary goal is to reintroduce captive cranes to their natural Rwandan habitat. Documentation will be key, and Nsengimana plans to first establish a national database of grey crowned-cranes in Rwanda, listing all those in captivity. A rehabilitation centre will be created in Akagera National Park, located in the north-east of the country. This centre will begin reintroductions to the wild – once Nsengimana has convinced people to release their cranes – as well as facilitate captive breeding programmes.

Convincing members of Rwanda's elite to give up their birds is a sensitive issue. Nsengimana plans to tackle this by organizing the release of illegally kept birds through an amnesty programme. For support, he has reached out to the Rwanda Development Board, which is collaborating on the project, to encourage people to release their birds. "People are already coming forward to surrender their cranes," he says.

Another major aim is to stop the birds being poached from the wild. Nsengimana knows that for conservation to work in a country where poverty is widespread, it must address the need for local people to make a living. As part of his awareness-raising programme, Nsengimana will run a national media campaign to educate people about how to pursue livelihoods without threatening endangered species. In the long run, finding ways to conserve the cranes' habitat will help conserve Rwanda's biodiversity by protecting other species that live in the marshes.

Nsengimana, who is aged 30, also has a long-term mission – to foster a younger generation of Rwandan conservationists. "I want to train young veterinarians to help with this project, and take ownership of conservation projects and, so far, the response has been extremely positive," he says.

Many other African countries are struggling to balance protecting the environment with economic development, and Nsengimana hopes that this project will serve as a model for neighbouring countries.

PROFILE

Born on 23 May 1984, Nsengimana excelled in his studies, despite the ongoing political and social turbulence in Rwanda after the 1994 genocide. After graduating with a Bachelor in Veterinary Medicine (2010) at the Higher Institute of Agriculture and Animal Husbandry in the Northern Province, rather than follow his classmates into livestock production, he chose conservation, a path few young Rwandans tread.

Since 2010, he has been a field veterinarian with Gorilla Doctors, based in Musanze in the north of Rwanda, which was set up by the Mountain Gorilla Veterinary Project and the Wildlife Health Center, University of California, Davis. He also works for the USAID-funded Emerging Pandemic Threats PREDICT programme in Kigali, conducting wildlife surveillance to identify the emergence of new infectious diseases. Nsengimana is currently studying for a long-distance MVetSci in Conservation Medicine at the University of Edinburgh, Scotland. He expects to graduate in 2015.

Nsengimana – who lived in a refugee camp at the age of nine – acknowledges that his childhood was tough, but he is always mindful that many Rwandans went through much tougher times than he did. "Ultimately, hard times leave you with two options: they can break you completely and you lose your hope; or you choose to work hard towards rebuilding a broken country and preventing such tragedies ever happening again. Every Rwandan has had a role to play in moving forward from the genocide," he says. "I knew that whatever I did with my life, I had to contribute something meaningful to my country."

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FRANCESCO SAURO

COUNTRY ITALY
AGE 29
PROJECT LOCATION BRAZIL AND VENEZUELA
PROJECT EXPLORE ANCIENT QUARTZITE CAVES IN THE *TEPUIS* OF SOUTH AMERICA

For scientist and explorer Francesco Sauro, the table-top mountains – *tepuis* – of South America have always had a powerful allure. "Not just because they are beautiful, which of course they are," he says, "but because inside they're actually a kind of lost world." Towering over the savannah and rainforest that straddle south-eastern Venezuela and northern Brazil, the string of quartzite plateaus constitutes one of the globe's most dramatic landscapes. But it also contains extensive cave structures, which harbour unique geological and biological features that have evolved over millennia in isolation from the surrounding environment.

As part of the Italian exploration association La Venta, and with the support of the Venezuelan team Theraphosa, Sauro has led five expeditions to the *tepuis* since 2009. They made several discoveries, including one of the world's longest quartzite caves (Imawarì Yeuta with over 20 kilometres of passages), in Venezuela's Auyan *tepui*. His research provided new insights into how these giant quartzite caves form. He also discovered the presence of a new mineral, rossiantonite, as well as other rare silica and sulphate formations. Additional finds include new cave animal species, such as a blind fish trapped in an underground river, which could reveal a close relationship to some African species – further evidence of the period when Africa and South America formed a super-continent. It is the prospect of studying such fascinating oddities that is drawing Sauro back to the region later this year.

Between November 2014 and November 2017, with the support of his Rolex Award for Enterprise and other sponsors, Sauro intends to lead a series of four expeditions into caves in the farthest *tepuis* of the Amazonas region: Duida-Marahuaka massif in southern Venezuela, and Pico da Neblina and Serra do Aracá in neighbouring Brazil. "Conditions will be challenging due to the remoteness of the locations and altitudes of up to 2,900 metres, but I think the rewards will be considerable," Sauro says. "Because of the heavy rainfall in the region, there is likely to be extensive water erosion, which of course translates into even bigger caves." He also believes that the new locations – further inland and far from previous research sites – will present very different ecosystems with variant geo-microbiological environments and unknown fauna. "The idea is to collect data with a multidisciplinary and holistic approach to build up a picture of the whole area, offering insights into the evolution of landscape and life in central South America after the opening of the Atlantic Ocean 100 million years ago," he says.

The Award will fund a preliminary reconnaissance mission involving a three-to-five-man team that will survey the sites by helicopter. This will allow them to locate cave entrances and assess the caves' speleological and scientific potential, as well as study logistical difficulties. It will also fund a second, multidisciplinary team of nine to 15 scientists and cavers from Italy, Venezuela, Brazil and Switzerland who will then undertake a survey of the caves, collecting geological and geo-microbiological data, analysing the caves' morphology, water chemistry and rock weathering, as well as looking for new or rare minerals and life forms.

Mindful of the spiritual significance and ecological importance of the *tepuis* for the indigenous people, Sauro has always shared the knowledge derived from his expeditions with local communities, and has ensured that research is undertaken with the utmost respect for the environment both inside and outside the cave formations. The expeditions will also include local Venezuelan and Brazilian cavers, in order to share research and discoveries with local institutions and caving groups.

PROFILE

Born on 17 September 1984, Sauro grew up listening to stories of his father's and uncle's caving adventures, and began caving around his home in northern Italy at the age of 13. When he was 19 years-old, he was invited by Antonio de Vivo – a 1993 Rolex Award Laureate and one of the founders of La Venta – to join a caving and canyoning expedition in the Mexican state of Durango. "This was my first expedition outside Europe and it really opened my eyes," says Sauro. Since then, he has taken part in 23 expeditions in Asia and Latin America, leading 12 of them in Mexico and Venezuela. He has surveyed over 50 km of previously unmapped cave systems, and reached a depth of over 1,000 m in the Alps.

A geologist by training, with a BSc and MSc in geology from the University of Padua (2007/2010), and a Ph.D in geology from the University of Bologna (2014), Sauro combines a commitment to serious research with a passionate desire to communicate. In 2004, aged 20, he wrote the script for a documentary, *L'Abisso* (*The Abyss*), about the exploration of a famous cave in northern Italy. *L'Abisso* won 11 awards at festivals in Europe and the United States. In 2007, he turned the script into a 264-page book, for which he won a mention in Italy's 2008 ITAS prize for mountain literature. In 2012, an episode of the documentary series *The Dark*, produced by the BBC, was dedicated to his discoveries in Venezuelan *tepuis*. His upcoming expeditions will be the subject of two documentaries.

Because of his extensive experience as an expedition leader, in 2012 and 2013, Sauro was asked to act as scientific consultant and instructor for the European Space Agency's training programme, CAVES (Cooperative Adventure for Valuing and Exercising human behaviour and performance Skills), which prepares multicultural teams of astronauts to work together by exploring caves, an extreme environment that is in many ways analogous to space.

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ARTHUR ZANG

COUNTRY CAMEROON
AGE 26
PROJECT LOCATION CAMEROON
PROJECT INVENT AFRICA'S FIRST MEDICAL COMPUTER TABLET TO HELP DIAGNOSE PEOPLE WITH HEART DISEASE

By day, Arthur Zang may seem like any other university IT specialist, but by night, he uses his technological know-how to pioneer cardiac health care in his native Cameroon. Zang has invented the Cardio Pad – which is believed to be Africa's first handheld medical computer tablet. It will allow health-care workers in rural areas to send the results of cardiac tests to specialists via a mobile phone connection.

The incidence of heart disease is rising in many low and middle-income countries around the world due to wealthier lifestyles and greater longevity. Cameroon is no exception. According to Cameroon's Society of Cardiologists, some 30 per cent of the country's 22 million people suffer from high blood pressure, which is one of the key contributing factors to heart disease. Yet there are fewer than 50 heart specialists, most of whom are based in the cities of Douala and Yaoundé, leaving rural areas with virtually no cardiac care.

Zang's patented touchscreen Cardio Pad could change that. His company, Himore Medical, will sell the Cardio Pad as part of a complete diagnostic kit for about US$2,000, less than half the price of other, less portable, systems.

The other components in the kit are a wireless set of four electrodes and a sensor that attaches to the patient and transmits its signals via Bluetooth to the Cardio Pad. The kit takes a digitized electrocardiogram (ECG) reading of the patient's heart function.

The health-care worker who takes this reading then transmits this information to a national data centre. Once the ECG is received, a cardiologist makes a diagnosis and sends it back to the centre to be relayed to the health-care worker treating the patient, along with prescription instructions.

The Cardio Pad has the potential to become a complete telemedicine tool, allowing measurement and transmission of integrated information on a patient's health profile, which could help diagnose many other diseases.

The idea for the Cardio Pad emerged in 2007, when Zang was finishing his degree. Interested in applying technology to medicine he spent a lot of time in hospitals. On one hospital visit, he was watching a television programme showing an ECG being taken. "I said to myself: 'I wonder how that works?'" Cardiologist Professor Samuel Kingué from Yaoundé's main hospital became a mentor, teaching Zang about the type of software needed for a portable ECG device and about how to process the data that comes from the signal.

When Zang began designing the Cardio Pad, however, financing was difficult. “I went to the banks, but they wanted all sorts of guarantees.” So he used a 21st century solution: he posted a video about his project on Facebook to raise funds. This led to a $20,000 grant from the Cameroon Government, which Zang used to produce 20 tablets, two of which are being tested in hospitals in Cameroon.

With his Award funds, Zang will produce 100 tablets, 10 for each of Cameroon’s provinces. “My goal is to have 500 Cardio Pads being used across Cameroon,” he says. He also wants to export the device to other regions such as central Africa and India. The Cardio Pads are currently produced in China. Over the next decade, Zang hopes to shift production to Cameroon, enabling his country to benefit economically as well.

The Cardio Pad is just the first step in Arthur Zang’s mission to bring better health-care to his country. He aims to set up Cardioglob, an integrated nationwide network of hospitals and cardiologists, allowing comprehensive data management and cardiac services. Zang also intends to develop a family of medical devices and technologies, such as simple ultrasound equipment, for use in rural areas. And he is already planning his next invention, a beeper to allow patients to alert their doctors in medical emergencies.

PROFILE

Arthur Zang, born on 26 November 1987, is part of a new generation of African social entrepreneurs who are determined to build high-tech business ventures while helping their fellow citizens. “I’m very sensitive to the problems of other people. For me, it’s highly satisfying to be of service to people in need,” he says. Having been born in a Cameroonian village himself, he knows the problems with rural health care. “It’s very difficult to be a long way from medical care. I’ve seen this in my own family.”

Zang is the chief IT engineer of the Catholic University of Central Africa in Yaoundé. He first moved there to study for his Bachelor’s in Computer Science from the University of Yaoundé (which he finished in 2007). Two years later, Zang did a Master’s at the National Advanced School of Engineering of Yaoundé to give him the necessary expertise to design the Cardio Pad.

Zang reaches out to social media, particularly Facebook, whenever he faces an obstacle. “Just as there aren’t many cardiologists in Cameroon, so there aren’t many technology specialists. I sent messages to Microsoft and other companies when I needed advice,” he says. And he got it.

Zang’s prowess as an innovator is increasingly being recognized; in 2011, he was a semi-finalist in Microsoft’s Imagine cup, a student technology competition, and in 2012, he won medical innovation awards from both the Cameroonian Association of Engineers and Computer Scientists in Germany, as well as the Junior Chamber International, a global network of young active citizens.

Not all inventions succeed but Zang’s talent is that he is not merely a dreamer who has great ideas – he has the determination to see them through. “To me, if you start something, you must finish it. That is what gives me the greatest satisfaction.”

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HOSAM ZOWAWI

COUNTRY SAUDI ARABIA
AGE 29
PROJECT LOCATION AUSTRALIA, GULF REGION
PROJECT DEVELOP FASTER SUPERBUG TESTS AND RAISE AWARENESS OF ANTIBIOTIC RESISTANCE

Every day that 29-year-old microbiologist Hosam Zowawi spends in his laboratory makes him more aware that a nightmare scenario in which modern drugs fail to work could become reality. For his Ph.D at the University of Queensland in Brisbane, Australia, Zowawi is studying the way that bacteria develop resistance to antibiotics that help us fight off life-threatening infections such as pneumonia. While resistant strains of bacteria have been recognized for some time, microbiologists like Zowawi are increasingly discovering strains that are immune to all known antibiotics, rendering them so resilient that they have been dubbed 'superbugs'. Zowawi is studying patients who are dying of common conditions such as urinary tract infections – which would normally be treatable – because they harbour antibiotic-resistant bacteria.

Existing diagnostic tests are too slow to detect resistant bacteria, taking between 48–72 hours to yield results. This is too long for many patients who need urgent treatment, so doctors use trial and error to identify an antibiotic that works. Zowawi has developed a Rapid Superbug test that gives results in just three to four hours, potentially allowing doctors to prescribe an appropriate antibiotic. Zowawi's test searches bacteria for genes that make beta-lactamase enzymes, which allow bacteria to destroy an important class of antibiotics including penicillin and carbapenems before they can do their work. This is an issue of global concern because drugs such as carbapenems are often used as antibiotics of last resort. Zowawi is also developing a second test that will identify a family of bacteria that is particularly prone to developing antibiotic resistance. Both tests require highly specialized scientific equipment.

Zowawi is particularly interested in how superbugs are spreading through the Gulf states (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates). In many of these states, poor prescription practices and the fact that antibiotics are sold freely over the counter mean that many people either take the wrong antibiotics, or take them when they are unnecessary, such as for viral infections. This misuse of antibiotics fuels bacterial resistance greatly, which is why a key component of Zowawi's project involves raising awareness of the issue. "In the Gulf, some hospitals train doctors on antibiotic resistance, but there is very little information given to the public."

Since antibiotic-resistant bacteria can easily cross borders with people or animals, it was important for Zowawi to establish a region-wide system for monitoring antibiotic resistance. Unfortunately, many Middle-Eastern countries are unaccustomed to extensive cross-border collaboration. As Zowawi's Ph.D kept him busy in Brisbane, establishing a network meant "long days and nights in front of my computer, firing off endless emails, convincing hospitals to take part". The effort has paid off, and Zowawi now has a collaborative network of seven Gulf-region hospitals that have agreed to share data about antibiotic-resistant bacteria.

The campaign – the first region-wide Gulf effort of its kind – will include educational documentaries, flyers and infographics, and will make use of social-media platforms such as Twitter and YouTube. Zowawi is also consulting media experts to produce content for television, radio, and newspapers.

Communicating information about science only works well when it adapts to cultural and social mores, says Zowawi. "The beauty of our campaign is that it has a local perspective and not a Western one. The data and case studies all come from our research in the Gulf countries. This will help people really identify with the issues."

PROFILE

Hosam Zowawi, born on 15 August 1984, is a scientific entrepreneur with a social conscience. While he has to make frequent flights between the Middle East and Australia he feels the hard work is entirely worth it. "I feel a responsibility to work on antibiotic resistance because of the frightening things I see on a daily basis in the lab."

Although Zowawi left Saudi Arabia with his family to pursue postgraduate studies in clinical microbiology and infectious diseases in Australia (on a full academic scholarship from the government of Saudi Arabia), he remains firmly rooted in his home country. Since 2007, he has been a microbiology teaching assistant at the College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, in Riyadh. Zowawi sees his future in Saudi Arabia. After completing his Ph.D and subsequent postdoctoral work, he envisions that he will eventually return to Saudi Arabia to run a research laboratory and biotechnology company, undertaking rapid testing. He intends to practise as a clinical microbiologist and teach students.

Zowawi is dedicated to public engagement and believes that better communication about scientific issues could transform health-care in the Gulf states. He takes a broad-based approach to raising awareness about antibiotic resistance because he wants to get his message across in any way he can – from offering iPads as prizes in competitions that test the public's knowledge about antibiotic resistance, to promoting awareness at sports events, such as polo tournaments. A keen polo player himself, Zowawi is currently planning a team name for an upcoming match. "Superbug Slayers" is top of his list.

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JURY MEMBERS
2014 Rolex Awards for Enterprise

Kevin Hand
Astrobiologist and planetary scientist
Deputy Chief Scientist of the Solar System Exploration Directorate at NASA's Jet Propulsion Laboratory, astrobiologist Kevin Hand is helping spearhead a project to send a spacecraft to explore Jupiter's moon Europa in an effort to find life beyond Earth. Hand is simultaneously engaged in his more earthbound Cosmos Education, an organization empowering African children through science, technology, health and environmental education.

Yolanda Kakabadse
Environmentalist and WWF International President
Yolanda Kakabadse, international president of WWF and a prominent environmentalist, is recognized as a long-time champion of sustainable development and biodiversity preservation. A former Minister of the Environment for Ecuador and former president of the International Union for Conservation of Nature (IUCN), she is respected worldwide for the passion and diplomacy she deploys in defence of the environment.

Diébédo Francis Kéré
Architect
Renowned for promoting sustainable architecture, Diébédo Francis Kéré focuses his work on the usage and development of local materials and techniques, the innovative adaptation of traditional and new technologies, and the involvement of local communities. His first building, the Primary School of Gando, in his native Burkina Faso, received the 2004 Aga Khan Award for Architecture.

Lu Zhi
Conservationist
A leading Chinese conservation biologist and world expert on giant pandas, Lu Zhi has spent two decades helping the Chinese people reconcile conservation and growth. Today she is a professor and executive director of Peking University's Center for Nature and Society and chief scientist at the Shan Shui Conservation Center, which she founded.

Linda Partridge
Biologist and geneticist
Professor Dame Linda Partridge is a much-respected scientist and expert on the biology of ageing. She is currently a professor of biometry and director of the Institute of Healthy Ageing at University College London (UCL) and founding director of the Max Planck Institute for Biology of Ageing in Cologne, Germany.

Adam Rutherford

Geneticist

Adam Rutherford is a British geneticist, author and broadcaster known for such insightful programmes as *Inside Science* for BBC Radio 4 and *The Cell* and *The Gene Code* for BBC Television. A former editor at *Nature*, he writes on a wide variety of science-related subjects for leading newspapers.

Rohinton Soli "Ronnie" Screwvala

Media entrepreneur and philanthropist

A prominent Indian entrepreneur and social philanthropist, Ronnie Screwvala launched India's first cable TV network and founded UTV, one of the country's largest media and entertainment conglomerates, which he sold to Disney in 2012. He is now focusing his efforts on rural development through his Swades Foundation and encouraging entrepreneurship through Unilazer Ventures.

Hayat Sindi

Biotechnologist and innovator

Trailblazing biotechnologist Hayat Sindi has spent her career developing cutting-edge technologies for companies as Diagnostics For All, which she co-founded. The Saudi-born scientist's main focus today is on empowering young innovators and entrepreneurs from the Middle East through her i2 Institute for imagination and ingenuity, which she founded. A 2011 *National Geographic* Emerging Explorer, Sindi serves on the UN Scientific Advisory Board and Saudi Arabia's Consultative Assembly and as a UNESCO Ambassador for Science.

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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. The grants must be used to complete projects.

A cycle of awards devoted to Young Laureates was launched in 2009 to encourage the next generation of leaders.

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

Selection

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 candidate's 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 watch.

In the 38 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 process 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.

For nearly four decades, the company has has championed 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.