



SCHLUMBERGER FOUNDATION

2022 ANNUAL REPORT





“The study of science, technology, engineering and mathematics (STEM) is vital for all nations and is especially critical for women from developing and emerging economies. The Schlumberger Foundation is committed to gender parity in science and recognizes that full access to and participation in a STEM curriculum is essential for the empowerment of girls and women.”

Roseline Chapel

*President,
Schlumberger Foundation*

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Introduction

Word from the President



Roseline CHAPEL

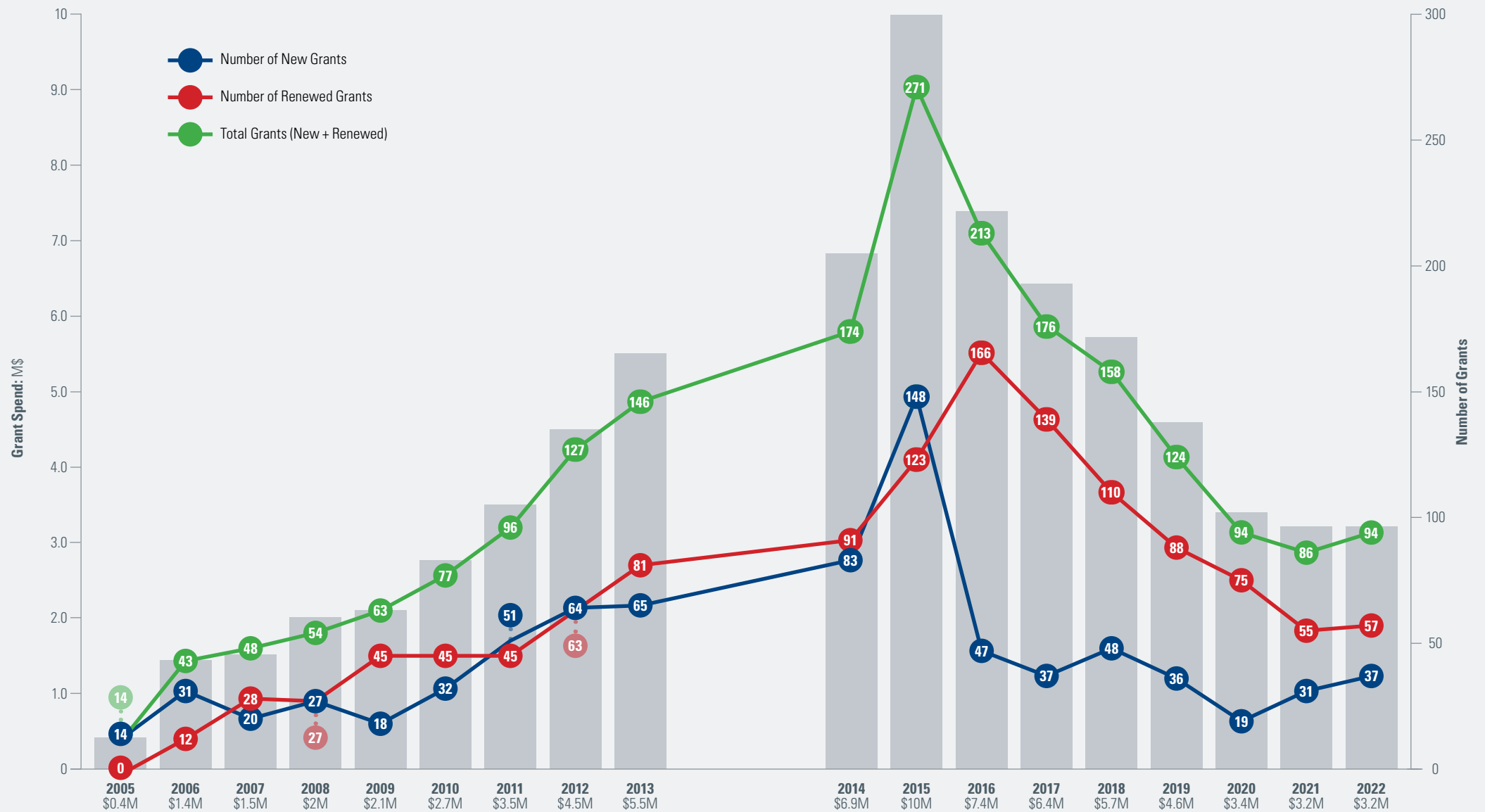
President
Schlumberger Foundation

Full impact of the disruption linked with the pandemic has been felt with one year delay on the Faculty for the Future program. Despite a record low participation in new applications, we are proud to have admitted in the program a number of very high-quality new Fellows in line with pre-pandemic levels, reflecting our commitment and unwavering support to women pursuing scientific education in countries where economic conditions and gender gap in education, economic and political life are the most challenging.

We trust that the community of women scientists that the Faculty for the Future program is building year after year is making a difference in these countries by expanding and strengthening their scientific education and research institutions, hence providing the science-based evidence needed to resolve ecological, medical and technological issues, and leading to innovation and economic development.



Financial Overview



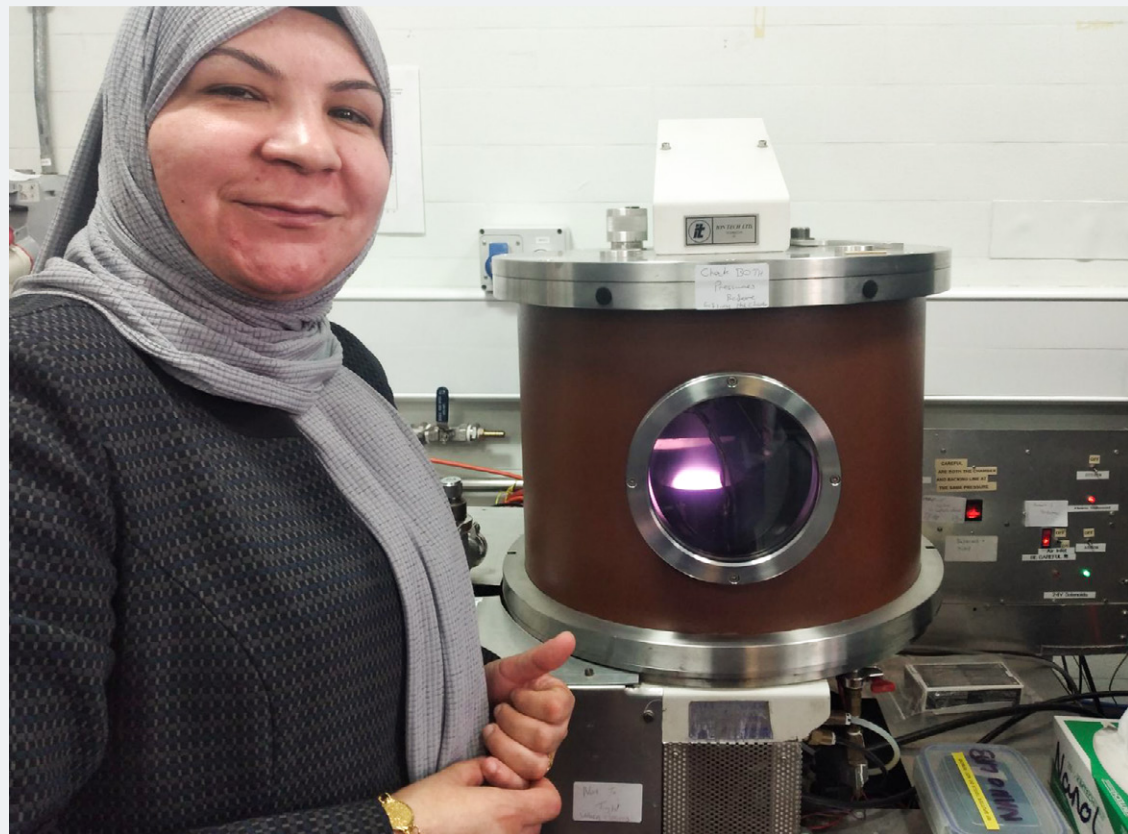
Financial Overview

In **2022**, the Schlumberger Foundation continued with its flagship Faculty for the Future program focused on advanced academic research in STEM disciplines for women scientists from the developing world. The key goal of the program focuses on reducing the gender gap in STEM education by breaking down the economic barrier that prevents women from achieving their educational aspirations.

For the **2022-2023** academic year, a total of **37** new fellows were admitted bringing the total population receiving financial support from this program to **807** female scientists from **86** developing countries, studying in **35** host countries around the world.

The total of **37** new grants awarded in **March 2022** represents an increase of 19% YoY. The **57** renewed grants were awarded with the numbers remaining flat compared to the previous year. Grant spend remained stable at **\$3.3M** compared with the previous year. **58%** of the total grant spend in 2022 was disbursed to grantees studying in the United Kingdom and the United States: **\$1.2M** and **\$715k** respectively (vs \$1.7M and \$843k last year). The remainder was disbursed to grantees enrolled at universities mostly in Australia, Canada, Europe, and South Africa.

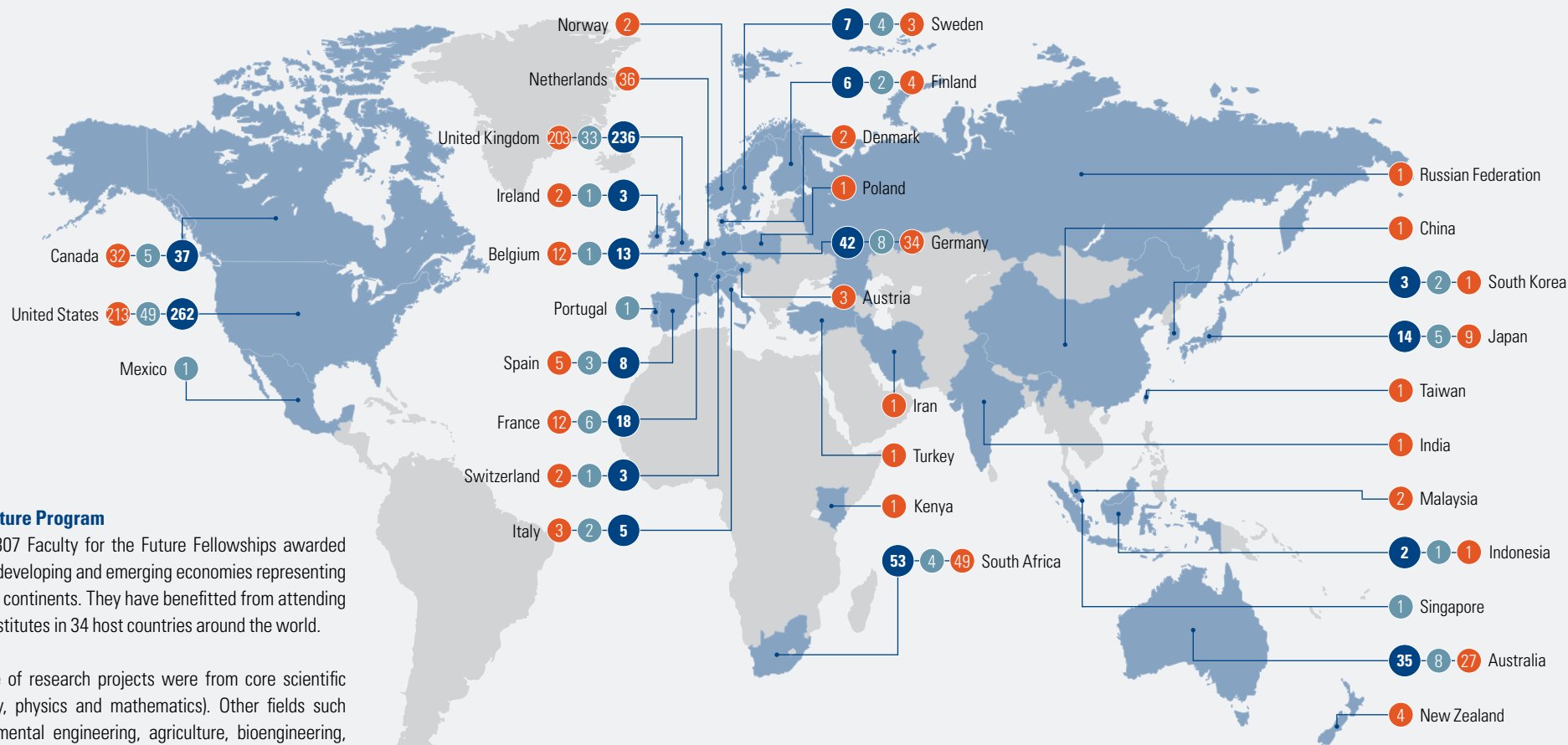
For the **2023-2024** academic year, the Faculty for the Future program received **320** new applications, an increase of **132% YOY**. This was due to the larger number of eligible countries and in part to the ease in the constraints and effects of the COVID-19 pandemic. In addition, a total of **62** renewal applications were submitted representing an increase of 5% over the previous year.



THE FACULTY FOR THE FUTURE PROGRAM IN 2022:

RESEARCH TYPE AND COUNTRY OF STUDY

807 FELLOWS FROM 86 COUNTRIES STUDYING IN 34 HOST COUNTRIES



Faculty for the Future Program

Recipients of the 807 Faculty for the Future Fellowships awarded to date come from developing and emerging economies representing most of the world's continents. They have benefitted from attending leading research institutes in 34 host countries around the world.

In 2022 the choice of research projects were from core scientific domains (chemistry, physics and mathematics). Other fields such as civil & environmental engineering, agriculture, bioengineering, environmental sciences, computer engineering, hydrology, nutrition and medicine were also in evidence as many research projects directly focused on home country related issues.



Overall total



Post-Doctorate



PhD

THE FACULTY FOR THE FUTURE PROGRAM IN 2022:

CITIZENSHIP AND COUNTRY OF STUDY

807 FELLOWS FROM 86 COUNTRIES STUDYING IN 34 HOST COUNTRIES

AMERICAS

- 1 United States: 262
- 2 Canada: 37
- 3 Mexico: 1 / 13
- 4 Brazil: 16
- 5 Colombia: 16
- 6 Peru: 7
- 7 Guatemala: 6
- 8 Bolivia: 4
- 9 Ecuador: 4
- 10 Nicaragua: 4
- 11 Argentina: 3
- 12 Guyana: 3
- 13 Honduras: 3
- 14 Costa Rica: 2
- 15 El Salvador: 2
- 16 Venezuela: 2
- 17 Dominican Republic: 1
- 18 Haiti: 1
- 19 Paraguay: 1
- 20 Trinidad and Tobago: 1

EUROPE

- 21 United Kingdom: 236
- 22 Germany: 42
- 23 Netherlands: 36
- 24 France: 18
- 25 Belgium: 13
- 26 Spain: 8
- 27 Sweden: 7
- 28 Finland: 6
- 29 Italy: 5
- 30 Austria: 3
- 31 Ireland: 3
- 32 Switzerland: 3
- 33 Denmark: 2
- 34 Norway: 2
- 35 Poland: 1
- 36 Portugal: 1
- 37 Russia: 1 / 4
- 38 Ukraine: 2

MIDDLE EAST

- 39 Iran: 1 / 12
- 40 Turkey: 1 / 11
- 41 Palestine: 13
- 42 Iraq: 10
- 43 Jordan: 9
- 44 Syria: 2
- 45 Yemen: 2
- 46 Kuwait: 1
- 47 Lebanon: 1
- 48 Oman: 1

AFRICA

- 49 South Africa: 53 / 6
- 50 Kenya: 1 / 25
- 51 Nigeria: 101
- 52 Ghana: 22
- 53 Egypt: 21
- 54 Sudan: 16
- 55 Zimbabwe: 16
- 56 Ethiopia: 15
- 57 Tanzania: 15

- 58 Uganda: 15
- 59 Cameroon: 13
- 60 Zambia: 12
- 61 Malawi: 10
- 62 Namibia: 9
- 63 Benin: 7
- 64 Madagascar: 7
- 65 Rwanda: 7
- 66 Botswana: 5

- 67 Senegal: 5
- 68 Algeria: 4
- 69 Lesotho: 4
- 70 Libya: 3
- 71 Mozambique: 3
- 72 Sierra Leone: 3
- 73 DRC: 2
- 74 Eswatini: 2
- 75 Burkina Faso: 1

- 76 Chad: 1
- 77 Congo: 1
- 78 Liberia: 1
- 79 Mauritius: 1
- 80 Morocco: 1
- 81 Somalia: 1
- 82 Togo: 1
- 83 Tunisia: 1

ASIA

- 84 Japan: 14
- 85 South Korea: 3 / 1
- 86 Indonesia: 2 / 39
- 87 Malaysia: 2 / 4
- 88 India: 1 / 77
- 89 China: 1 / 32
- 90 Singapore: 1
- 91 Taiwan: 1
- 92 Pakistan: 55
- 93 Bangladesh: 18
- 94 Vietnam: 15
- 95 Nepal: 14
- 96 Philippines: 10
- 97 Sri Lanka: 5
- 98 Thailand: 4
- 99 Afghanistan: 3
- 100 Myanmar: 3
- 101 Bhutan: 2
- 102 Cambodia: 2
- 103 Mongolia: 2
- 104 Armenia: 1
- 105 Kyrgyzstan: 1

OCEANIA

- 106 Australia: 35
- 107 New Zealand: 4
- 108 Papua New Guinea: 3
- 109 Fiji: 1

00 Country Name: 00 / 00

1 2 3

1 Country name and location on map.

2 Number of Fellows studying in that country.

3 Number of Fellows from that country.

THE FACULTY FOR THE FUTURE PROGRAM IN 2022: HOST UNIVERSITIES

807 FELLOWS FROM 86 COUNTRIES STUDYING IN 34 HOST COUNTRIES

264 United States

19 Massachusetts Institute of Technology
13 Texas A&M University
10 Georgia Institute of Technology
10 Harvard University
10 University of Texas, Austin
7 Pennsylvania State University
7 University of Florida
7 Uni. of Illinois, Urbana-Champaign
6 Stanford University
6 University of California, Berkeley
6 University of California, Irvine
5 California Institute of Technology
5 Purdue University
5 University of Georgia
5 University of South Florida
5 Carnegie Mellon University
4 Columbia University
4 Cornell University
4 Ohio State University
4 Rice University
4 University of Arizona
3 Arizona State University, Phoenix
3 Auburn University
3 Boston University
3 Drexel University
3 Duke University
3 Iowa State University
3 Johns Hopkins University
3 Louisiana State University
3 North Carolina State University
3 Northeastern University
3 University of California, Davis
3 Uni. of North Carolina, Chapel Hill
2 Michigan State University
2 New York University
2 Northwestern University
2 Oklahoma State University
2 Princeton University
2 Rutgers University
2 South Dakota State University
2 Syracuse University
2 Texas Tech University
2 University of California, San Francisco
2 University of California, Santa Barbara
2 University of California, Santa Cruz
2 University of Colorado
2 University of Connecticut
2 University of Maryland
2 University of Michigan
2 University of Minnesota
2 University of Notre Dame
2 University of Pittsburgh
2 University of South Carolina
2 University of Tennessee
2 University of Washington
2 University of Wyoming
2 Vanderbilt University
2 Yale University

1 ANSER Center
1 Arizona State University, Tempe
1 Boston College
1 Brandeis University
1 Clarkson University
1 Colorado School of Mines
1 Colorado State University
1 George Mason University
1 Indiana University Purdue University
1 Lawrence Berkeley Nat'l Laboratory
1 LSU Health New Orleans
1 Missouri Uni. of Science and Tech.
1 Montana State University
1 National Institutes of Health
1 New Jersey Institute of Technology
1 Ohio University
1 Polytechnic Institute of New York Uni.
1 Scripps Research Institute
1 Tennessee Technological University
1 University of Arkansas, Fayetteville
1 University at Buffalo
1 University of California, Los Angeles
1 Uni. of North Carolina at Charlotte
1 University of Chicago
1 University of Delaware
1 University of Houston
1 University of Illinois at Chicago
1 University of Kansas Medical Center
1 University of Massachusetts
1 University of Miami
1 University of Nebraska-Lincoln
1 Uni. of Texas Health Sci. Center at San Antonio
1 University of Utah

236 United Kingdom

39 University of Cambridge
17 University of Nottingham
14 Imperial College
12 University College London
12 University of Manchester
10 University of Oxford
8 University of Bath
8 University of Leeds
8 University of Southampton
7 University of Strathclyde
6 Lancaster University
6 University of Bradford
6 University of Reading
5 King's College London
5 Newcastle University
5 University of York
5 University of Sheffield
5 University of Surrey
4 Loughborough University
3 University of Birmingham
3 University of Edinburgh
3 University of Glasgow
3 University of Hull
3 University of Wolverhampton
2 Bangor University

2 Cardiff University
2 De Montfort University
2 Keele University
2 Queen's University, Belfast
2 University of Aberdeen
2 University of Bristol
2 University of Dundee
2 University of Exeter
2 University of Huddersfield
2 University of Leicester
2 University of Stirling
1 Aston University
1 Cranfield University
1 Durham University
1 Manchester Metropolitan University
1 Northumbria University
1 Plymouth University
1 Robert Gordon University
1 St George's, University of London
1 University of Essex
1 University of Greenwich
1 University of Liverpool
1 University of London, Royal Holloway
1 University of Portsmouth
1 University of Roehampton
1 University of West London

53 South Africa

21 University of Cape Town
9 Stellenbosch University
7 University of the Witwatersrand
6 University of Pretoria
3 Rhodes University
2 Tshwane University of Technology
1 Nelson Mandela Metropolitan Uni.
1 North West University
1 University of Johannesburg
1 University of Kwazulu-Natal
1 University of the Western Cape

42 Germany

6 University of Bonn
3 Hamburg University of Technology
3 Saarland University
3 Technische Universität Berlin
3 University of Ulm
2 Heinrich Heine University of Düsseldorf
2 Jacobs University, Bremen
2 Technical University of Munich
2 University of Leipzig
1 Brandenburg University of Technology
1 Carl von Ossietzky University
1 Centre for Solar Energy and Hydrogen Research Baden-Württemberg
1 Chemnitz University of Technology
1 Darmstadt University of Technology
1 Europa University Flensburg
1 Hamburg University of Applied Sci.
1 Helmholtz Centre for Ocean Research
1 Humboldt University of Berlin

1 Martin-Luther Uni. Halle-Wittenberg
1 Ruprecht-Karls-Universität Heidelberg
1 Technische Universität Dortmund
1 Technische Universität Ilmenau
1 University of Hamburg
1 University of Kassel
1 University of Konstanz

36 Australia

7 University of Queensland
4 James Cook University
4 Queensland University of Technology
3 University of Sydney
2 Murdoch University
2 University of Canberra
2 University of Melbourne
2 University of South Australia
2 University of Technology Sydney
1 Australian National University
1 Curtin University
1 Flinders University
1 Monash University
1 University of Adelaide
1 University of Newcastle
1 University of New South Wales
1 University of Western Australia

36 Canada

6 University of Toronto
4 McGill University
4 Uni. of British Columbia, Vancouver
4 University of Waterloo
3 McMaster University
3 University of Alberta
2 University of Victoria
2 University of Calgary
1 Carleton University
1 Ecole de Technologie Supérieure
1 Ecole Polytechnique de Montréal
1 Institut Nat'l. de la Recherche Scientifique
1 Queen's University
1 Uni. of British Columbia, Kelowna
1 University of Sherbrooke
1 University of Western Ontario

36 Netherlands

14 IHE Delft Institute for Water Education
5 Delft University of Technology
5 University of Groningen
4 Utrecht University
3 University of Amsterdam
3 Wageningen University
1 University Medical Center Groningen
1 University of Twente

18 France

2 University of Lille
2 University of Paris Sud 11
2 University of Strasbourg
1 Aix-Marseille University
1 Albert Bonniot Institute, Grenoble
1 Centrale Graduate School, Marseille
1 Ecole Supérieure du Bois
1 European Hospital George Pompidou
1 ISAE-SUPAERO

1 Nat'l. Grad. Sch. of Engr. and Research Center
1 Université de Franche-Comté
1 Université Joseph Fourier, Grenoble
1 University of Bordeaux
1 University of Orleans
1 University Toulouse III, Paul Sabatier

15 Japan

4 Kyoto University
2 Kyushu University
2 Tokyo Institute of Technology
1 Chiba University
1 Hokkaido University, Sapporo
1 Keio University, Tokyo
1 Niigata University
1 Tokyo Uni. of Agriculture and Tech.
1 Tokyo University of Science
1 University of the Ryukyus

13 Belgium

7 Ghent University
3 Katholieke Universiteit Leuven
1 University of Antwerp
1 University of Liege
1 University of Mons

8 Spain

3 Polytechnic University of Valencia
2 University of Barcelona
1 Oceanic Platform of the Canary Islands
1 University of Granada
1 University of Valladolid

7 Sweden

2 Swedish Uni. of Agricultural Science
2 Umea University
1 Linköping University
1 Lund University
1 Uppsala University

6 Finland

3 University of Helsinki
1 Aalto University
1 University of Eastern Finland
1 University of Oulu

6 Italy

2 Polytechnic University of Milan
1 Roma Tre University
1 University of Naples Federico II
1 University of Pisa
1 University of Trieste

4 New Zealand

2 University of Canterbury
1 Massey University
1 University of Auckland

3 Austria

2 Uni. of Natural Resources and Life Sciences
1 Vienna University of Technology

3 Ireland

2 University College Dublin
1 University College Cork

3 South Korea

1 Ewha Womans University
1 Gwangju Institute of Science and Tech.
1 Seoul National University

3 Switzerland

1 Swiss Federal Inst. of Aquatic Sci. and Tech.
1 University of Lausanne
1 University of Zurich

2 Denmark

1 Technical University of Denmark
1 University of Copenhagen

2 Malaysia

1 Technological University of Malaysia
1 Universiti Teknologi Mara, Malaysia

2 Norway

1 Norwegian University of Life Sciences
1 Norwegian Uni. of Science and Tech.

1 China

China University of Petroleum

1 India

Indian Institute of Science, Bangalore

1 Indonesia

Telkom Institute of Tech., Bandung

1 Iran

University of Tehran

1 Kenya

Jomo Kenyatta Uni. of Agriculture and Tech.

1 Mexico

National Autonomous Uni. of Mexico

1 Poland

University of Warsaw

1 Portugal

University of Lisbon

1 Russia

Moscow Institute of Physics and Tech.

1 Singapore

National University of Singapore

1 Taiwan

Taipei Medical University

1 Turkey

Istanbul Technical University

Women in STEM

A Closer Look at some 2022 Fellows

In this section, we look closely at some profiles of the women scientists who were awarded a Faculty for the Future fellowship in 2022. These talented, self-driven scientists come from Benin, Guatemala, Nepal, Yemen, Senegal and Chad. Their research topics touch on relevant issues in their countries or regions that will facilitate the steps towards solutions and bridging the knowledge gaps. Any or all successful outcomes of these research by these remarkable scientists will bring them a step closer to achieving the valuable research goals they have set for themselves, which will positively impact the livelihoods, health and education of their local communities, regions and countries.

The advanced research projects highlighted below are as wide-ranging as they are compelling and tackle topics related to potential clinical interventions for stroke patients, the diversity and threats of wild bees in Central and South America, as well as analysis of the Himalayan Subsurface and River in the aid of providing helpful information to areas for safe drinking water, agriculture, and climate change. Other research explores cerebral hemodynamics, which aims to help children with disabilities communicate their needs. The FFTF grantees are also researching climate change and greenhouse gas emissions from wetlands and the experimentation of self-sampling and diagnostics of HPV infections.

As diverse in scope and subject matter as they would appear, there is, however, a common thread running throughout the narrative of these research topics: clearly, advanced research in STEM is necessary to formulate the scientific basis needed to propose better policies and generate social awareness. There can be no advancement or change without the help of advanced scientific research. Through its Faculty for the Future program, the Schlumberger Foundation is committed to ensuring that advanced research programs in STEM are funded by talented women scientists whose research specializations hold the key to tangible advancement while reducing the gender gap in STEM in developing countries.

Tissue Engineering, Neurovascular Imaging

Honour ADEWUMI



Home Country
Republic of Benin

Degree
**PhD in Biomedical
Engineering**

Expertise
**Glia Engineering
and Central Nervous
System Injuries**

Research Focus
**Tissue Engineering,
Neurovascular Imaging**

Host University
**Boston University,
United States**

Fellowship Awarded
2022

Honour Adewumi was born and raised in Cotonou, the largest city and commercial capital of the Republic of Benin, West Africa. Her parents, missionaries from the neighboring country of Nigeria, strongly supported the academic interests of Honour and her two older siblings, all of whom shared her passion for science.

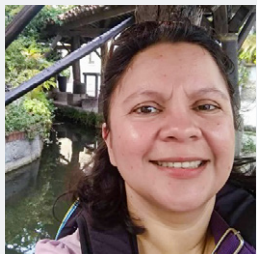
At the age of 16, with the support of a University scholarship, Honour moved to the United States to pursue undergraduate studies at the Jarvis Christian College (now University) in Texas, where in 2020 she obtained a BSc in Biology and Chemistry with a minor in Mathematics. During her studies she tutored students in her department as well as World religions and ethics. She was also involved in several research projects, one of which resulted in her becoming the first student in the University to publish a paper in a peer-reviewed journal. Honour received several awards for her athletic and academic achievements, including an internship from the Wake Forest Institute for Regenerative Medicine in North Carolina, United States, where she developed an interest in biomedical engineering, due to its ability to link research and healthcare.

Her PhD thesis is centered on potential clinical interventions for stroke injuries. Standard treatment for stroke is only effective within four hours of symptom-onset, and Honour is focusing on effective treatment strategies beyond that time frame. Studies indicate that stroke is more prevalent in Cotonou than other sub-Saharan cities in Africa, and the cost of treatment is approximately equal to the average monthly salary in Benin. Honour hopes that her studies will help to find more cost-effective long-term solutions to this challenge.

After completion of her studies in the United States, Honour intends to return to Benin and use her contacts with siblings, friends, and family to build relationships with universities and host workshops to educate high school and university students about stroke. She also hopes to share her experience of research techniques and scientific processes to help establish a research institute to train the next generation of scientists on research techniques while investigating Benin-specific scientific questions.

Wild Bee Viruses in Central and South America

Patricia LANDAVERDE



Home Country
Guatemala

Degree
Post Doctorate

Expertise
Landscape, Population
and Community Ecology

Research Focus
Wild Bee Viruses in Central
and South America

Host University
Martin Luther University,
Halle-Wittenberg, Germany

Fellowship Awarded
2022

Patricia Landaverde was born in Guatemala City, the capital of Guatemala, Central America. She attended a public primary school and then a Catholic school for girls, where in her science classes she excelled at solving problems and understanding natural principles. Her interest in nature included pursuits such as looking for snails in the school's gardens.

Patricia joined the Biology school at the Universidad de San Carlos de Guatemala (USAC), where in 2004 she obtained a Licenciatura in Biology, equivalent to a BSc, and began working there as a researcher. In 2019, Patricia gained an MSc in Biological Science from the Institute of Ecology at the Universidad Nacional Autónoma de México, where she specialized in systematics, the identification, classification and naming of organisms.

Patricia has previously studied pollinators native to her country and is especially interested in bees. She and her husband breed wild bees in their garden and grow wildflowers to encourage their populations. In 2017 she was awarded a PhD by Martin Luther University, Halle-Wittenberg, Germany, for her studies on bee pollination in Germany and Guatemala. The postdoctoral research focuses on understanding the diversity and threats to wild bees in Central and South America, in particular the presence and spread of viruses in wild bees in the area. Many similar studies have been performed in developed countries, but these do not have the diversity of species observed in the tropics. The importance of wild bees for crop productivity is well known among local agricultural and indigenous communities, for example the Mayans have bred wild (stingless) bees since ancient times.

For at least the next five years, Patricia intends to continue her research into the ecological dynamics of honeybee viruses and how their presence affects the interaction between plants and wild bees. Her work will focus on Guatemala and the Central American region and will involve students and researchers at USAC.

Isotopic Analysis of Himalayan Subsurface and River Water

Kribina PATHAK



Home Country
Nepal

Degree
PhD in Earth Science:
Geochemistry

Expertise
Geochemistry

Research Focus
Isotopic Analysis of
Himalayan Subsurface
and River Water

Host University
Indian Institute of Science,
Bangalore

Fellowship Awarded
2022

Kribina Pathak was born and raised in Kathmandu, Nepal's capital, in a valley surrounded by the Himalayan mountains. She aims to live on a path of spiritual enhancement to better understand some of the countless things currently unknown to humankind, working a scientist. Her sister is also a scientist too, she is highly inspired by her journey, hence aims to become a scientists like her. Kribina believes that science is the route to identify and understand these unknowns of the universe and is aided by meditation to seek new realities. In high school, she excelled in physics, chemistry and biology, providing a firm foundation for her future career in science.

Kribina attended Tribhuvan University, Kathmandu, where 2014 she obtained a BSc in Environmental Science, majoring in Environmental Resource Management and Environmental Pollution. After working in various positions related to water management, in 2018, she gained an MSc in Environmental Science from Tribhuvan University, where she specialized in climate change and freshwater management.

The PhD research focuses on the geochemistry of subsurface water and the related cold-water and hot thermal springs in the Himalayas of India. Through her research she is trying to establish the fact that silicate weathering in geological time scale is over-estimated. Her research includes analyzing stable and radiogenic isotopes of elements in these bodies of water, typically the source of heavy minerals to

rivers and, ultimately, oceans. There have been few studies into the geochemistry of Nepalese groundwater to date, so Kribina's research should provide helpful information to areas including local needs for safe drinking water, agriculture, continental weathering, climate change and the oceanic science community.

After completing her PhD studies, Kribina plans to teach and perform research at the Amrit science campus in Kathmandu, affiliated with Tribhuvan University. She expects to return as an Assistant Professor but hopes to become soon a professor who can advocate for scholarships for girls to study in her faculty. She also intends to establish a course dedicated to groundwater conservation in Nepal. She hopes to establish the first isotope geochemistry lab in Nepal as well.

Brain-Computer Interfaces

Amal AL-SAQQAF



Home Country
Yemen

Degree
PhD in Biomedical
Engineering

Expertise
Computer Engineering

Research Focus
Brain-Computer Interfaces

Host University
University of Toronto,
Canada

Fellowship Awarded
2022

Amal Al-Saqqaf was born and raised in Taiz city, Yemen. Her father had instilled in her the importance of seeking knowledge and she has been inspired and driven by the Islamic perspective on the virtue of knowledge by which people derive benefit, as one of the good deeds that remain perpetual and rewarding even after death.

Amal received her bachelor's degree in software engineering from Taiz University, Yemen in 2012. She worked as a TA there and also worked as a program manager in an NGOs in Yemen. In 2020, Amal obtained a MSc in Computer Engineering from the German Jordanian University in Jordan with a DAAD scholarship. During her studies, she participated in some regional and international fellowship programs and trainings. She volunteered in community programs and activities related to education, technology, and women empowerment. For instance, she is a founding member of IEEE-Yemen subsection, Shabab++ initiative in Yemen, and Internet Society-Yemen chapter; and an active member in Arab Women in Computing-Yemen chapter and was a Women in Data Science ambassador in Yemen in 2020.

Amal's current PhD research investigates the potential to recognize the drive states (hunger & thirst) objectively and non-invasively using neuromarkers and saliva biomarkers. It also explores the cerebral hemodynamic and salivary correlates of nutritional status in children and youth with disabilities. The eventual impact of this project is to help children & youth with severe disabilities to communicate their needs to eat and drink and direct their own care, as well as providing clinicians and families with a new way to assess and manage nutrition of kids with disabilities using objective and non-invasive modalities such as neuroimaging and saliva biomarkers.

After completing her PhD studies, Amal plans to teach at Taiz University in Yemen and to support youth in education and engineering. She also plans to collaborate with secondary schools in Taiz to develop students' coding and technology skills and expose them to advancements in science and technology; for them to be inspired towards their own journeys and to be freed from the heavy chains of despair and war imprisoning minds and bodies. In future, Amal hopes to contribute to the research development in Taiz University and to establish a school that embraces critical thinking, problem solving, creativity, community service, and entrepreneurial spirit.

Molecular Mechanisms of HPV-induced Carcinogenesis

Zita Aleyo NODJIKOUAMBAYE



Home Country
Chad

Degree
PhD in Biomedical
Sciences Specializing
in Tropical Infectiology

Expertise
Biologist

Research Focus
Molecular Mechanisms
of HPV-induced
Carcinogenesis

Host University
Hospital European George
Pompidou France

Fellowship Awarded
2022

Dr. Nodjikuambaye Zita Aleyo, Current Schlumberger Foundation's Faculty for the Future Fellow, is a postdoctoral fellow at the Hospital European George Pompidou in Paris, France, where she conducts research on papillomavirus infections.

Dr. Aleyo has a strong background in bacteriology and virology with a focus on tropical infectiology, having obtained a Bachelor of Science degree from the National Training Institute in Health Science (INFSS) of Mali in 2012, a Master of Science degree from the Ouest African Catholic University (UCAO) of Burkina Faso in 2015, and a PhD degree from the Masuku University of Science and Technology of Gabon in 2021. Dr. Aleyo's doctoral thesis focused on the molecular mechanisms of HPV-induced carcinogenesis, under the supervision of Prof. Laurent Belec. She has published several papers in peer-reviewed journals, such as the Journal of virology, the Open Microbiology Journal, and the PLOS One etc.

Dr. Aleyo is also an active member of the African Society of Laboratory Medicine (ASLM), ICASA, and Chad National Society of Microbiology (SOTEM), Chadian Universities' Female Scientists Association, and Chadian Women's right League (LTDF). Dr. Aleyo's current research interests include the experimentation of self-sampling and diagnostic for HPV infection among LGBTQ+ individuals. Dr. Aleyo is passionate about advancing the scientific knowledge and improving the public health outcomes related to papillomavirus infections.

She has faculty affiliation with the University of N'Djamena and Toumai University in Chad.

Dr Aleyo has taken part in several conferences and received the prize for best Clinical Research Abstract at the 19th International Conference on HIV and STIs in Abidjan (ICASA) in 2017 and the Chadian woman scientist prize at the African Science Week at the Next Einstein Forum in 2019.

Dr Aleyo's has acquired tremendous expertise in the Laboratory System Strengthening and is keen to continue developing teaching and research skills and look forward to future opportunities.

Oceanography, Climate Change, Marine Heatwaves

Lala KOUNTA



Home Country Senegal

Degree PhD in Environmental sciences, oceanography, and climates sciences

Expertise Oceanography, Climate Sciences

Research Focus Oceanography, Climate Change, Marine Heatwaves

Host University Oceanic Platform of the Canary Islands (PLOCAN), Canary Islands, Spain

Fellowship Awarded 2022

Lala kounta was born and raised between Bambey, Kaolack and Dakar (Senegalese cities). Buoyed by her academic achievements and unwavering enthusiasm for scientific subjects, her teachers consistently encouraged her to pursue a path in science. Following her completion of a scientific baccalaureate, she enrolled at the Faculty of Science and Technology at the University Cheikh Anta Diop in Dakar, Senegal. There, she earned her bachelor's degree in physics and chemistry before specializing in applied physics at the master's level.

In 2012, after obtaining her master's degree in applied physics, she successfully competed to join the Ecole Supérieure Polytechnique (ESP) in Dakar. Undertaking master's research in meteorology, oceanography, and arid environment management.

Her fascination with fluid dynamics spurred contemplation of the sea and its mysteries, prompting questions about the origins of oceanic movements and the abundance of marine life in Senegal, she decided to pursue a doctorate in oceanography which necessitated research stays in France due to the absence of a full professor in the field in Senegal. After four years of dedicated research, she defended her thesis in July 2019, focusing on ocean circulation in the tropical Northeast Atlantic and its implications for fisheries in Senegal. her findings were published in international journals and presented at national and international conferences, marking a significant milestone as the first female specialized in physical oceanography in Senegal.

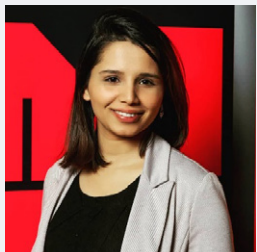
Despite the challenges posed by gender inequality and financial constraints, she has dedicated herself to teaching physical oceanography, modeling, thermodynamics, and climate at various universities in Senegal after her PhD defense as contract lecturer.

Fellow of Faculty for the Future, funded by the Schlumberger Foundation since 2022, she is conducting her research "IMPACCT- WAC - Impact of Climate Change in West African Coast" at the Oceanic Platform of the Canary Islands (PLOCAN in the Canary Islands (Spain).

Her ambition is to become a renowned professor and researcher in oceanography and climate sciences in Senegal. She aspires to serve as a role model for young female students in West Africa, inspiring them to pursue careers in academia and become future leaders in our academic community.

CO₂ Emissions From Drained Peatlands

Bidhya SHARMA



Home Country
Nepal

Degree
PhD in Geography

Expertise
Biogeochemistry, Climate change, GHG Emissions

Research Focus
CO₂ Emissions From Drained peatlands

Host University
McGill University, Canada

Fellowship Awarded
2022

If there was ever any doubt that childhood experience shapes adult life choices, Bidhya Sharma's story may help dispel it. Born and raised in a small village in the green hills of Nepal, young Bidhya walked the surrounding trails to school every morning with her mother, a teacher there. Later, she developed an interest in science and mathematics thanks to her father, a math and science teacher. And later still, she began applying these natural aptitudes to ecological research.

Bidhya Sharma began her quest to understand and improve her world's natural environment by securing a BSc in Forestry at Tribhuvan University in Pokhara, Nepal. Two years later she earned an MSc in Wetland Science and Conservation at Bangor University in the United Kingdom. And now, thanks in part to a fellowship from Faculty for the Future, she is undertaking a doctoral degree in Geography at McGill University in Montreal, Canada.

The focus of Bidhya's ongoing research is climate change and greenhouse gas emissions from wetlands drained for agricultural purposes. "Wetlands, and especially peatlands, store huge amounts of carbon and therefore have contributed massively to keeping the planet's climate stable for millenia," she explains. "My objective is to better understand these fragile landscapes and improve long-term monitoring of such ecosystems."

Bidhya Sharma has a second career objective—to vastly improve gender equality in her home country, which currently ranks a regrettable 142nd out of 154 countries worldwide. "I am now seeking collaborations and partnerships with other Nepali women in science and with feminist advocates. Together we are going to improve gender equality on both national and policy levels."



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