



SCHLUMBERGER FOUNDATION

2023 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

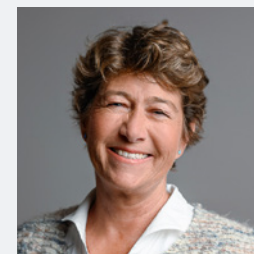
Word from the President

The trend was finally reversed in 2023 after the severe impact of the pandemic felt in 2022. A larger number of eligible countries combined with return to normal world movements allowed for a healthy participation level in new applications.

The number of new Fellows admitted in the Faculty for the Future program was back to normal and included Fellows from several countries where no awards were ever made, thanks to continued focus on reaching applicants also in under-represented areas of the world.

Emphasis has remained on selecting candidates personifying successful and recognized scientists who will most likely return home after completing their PhD degree or Post-Doc assignment and get actively involved in paving the way for equal opportunity to women and men in scientific careers.

This is our contribution to expanding and strengthening scientific institutions in countries where it is most needed, leading economic progress towards the Sustainable Development Goals that each of the Faculty for the Future women scientists passionately strives at reaching.



Roseline CHAPEL

President
Schlumberger Foundation



Financial Overview



Financial Overview

In **2023**, 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 **2023-2024** academic year, a total of **56** new fellows were admitted in 2023 bringing the total population receiving financial support from this program to **863** female scientists from **90** developing countries, studying in **35** host countries around the world.

The total of **56** new grants awarded in **March 2023** represents an increase of 51% YoY. The **60** renewed grants awarded with the numbers

increase of 5% YoY compared to the previous year of 57. Grant spend increased by 18% to **\$4.01M** compared with the previous year. **61%** of the total grant spend in 2023 was disbursed to grantees studying in the United Kingdom and the United States: **\$1.32M** and **\$1.12M** respectively (vs \$1.24M and \$715k last year). The remainder was disbursed to grantees enrolled at universities in Australia, Canada, Europe, and South Africa.

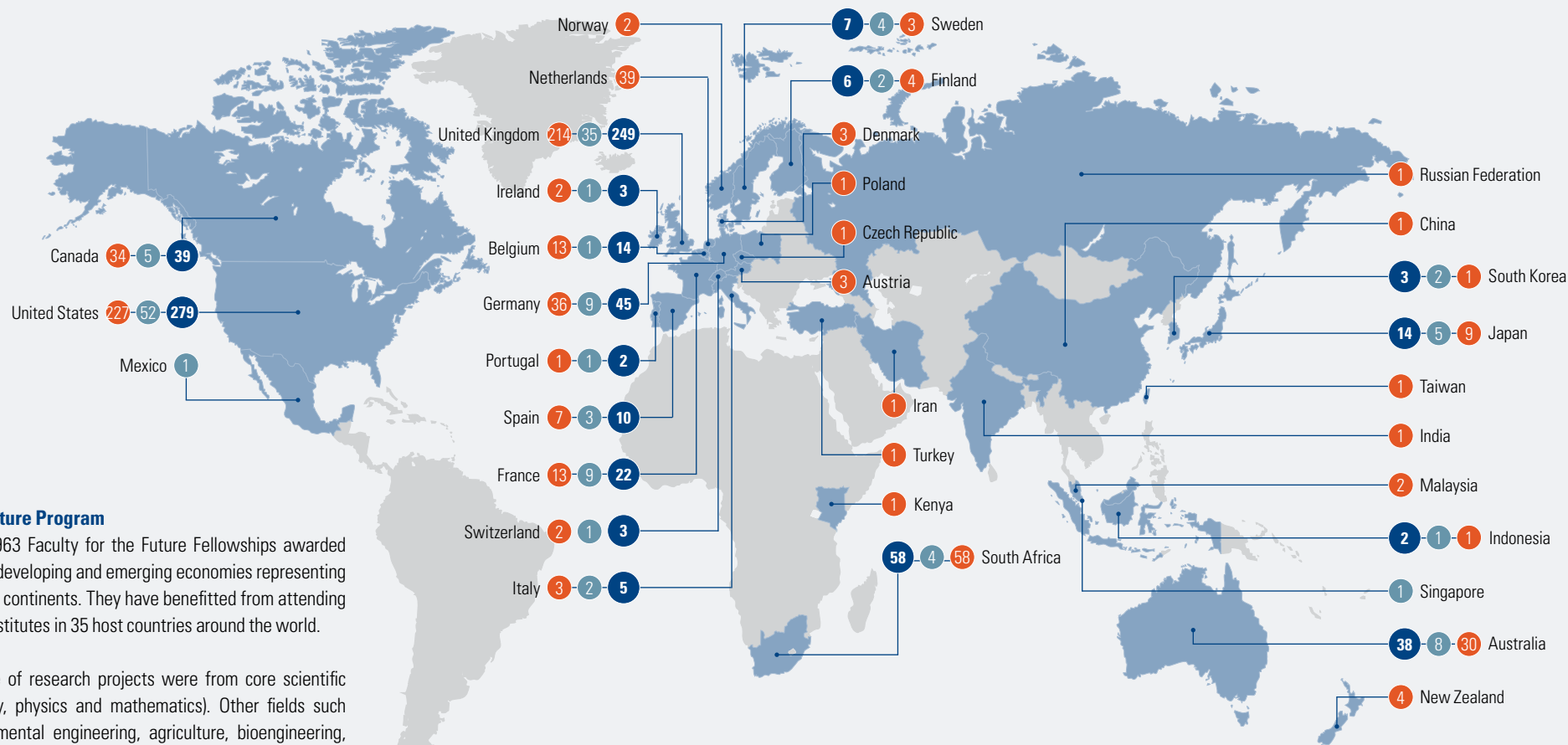
For the **2024-2025** academic year, the Faculty for the Future program received **466** new applications in **2023**. Applications have seen an increase of **45% YOY**. This was due to the ramp in communication to eligible candidates and countries through virtual calls per country with the support of fellows and alumnae. In addition, a total of **86** renewal applications were submitted represents an increase of 43% over the previous year.



THE FACULTY FOR THE FUTURE PROGRAM IN 2023:

RESEARCH TYPE AND COUNTRY OF STUDY

863 FELLOWS FROM 90 COUNTRIES STUDYING IN 35 HOST COUNTRIES



Faculty for the Future Program

Recipients of the 963 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 35 host countries around the world.

In 2023 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 2023: CITIZENSHIP AND COUNTRY OF STUDY

863 FELLOWS FROM 90 COUNTRIES STUDYING IN 35 HOST COUNTRIES

AMERICAS

- 1 United States: 276
- 2 Canada: 39
- 3 Mexico: 1 / 13
- 4 Brazil: 16
- 5 Colombia: 16
- 6 Peru: 7
- 7 Guatemala: 6
- 8 Bolivia: 4
- 9 Ecuador: 4
- 10 Honduras: 4
- 11 Nicaragua: 4
- 12 Argentina: 3
- 13 Guyana: 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: 249
- 22 Germany: 45
- 23 Netherlands: 39
- 24 France: 22
- 25 Belgium: 14
- 26 Spain: 10
- 27 Sweden: 7
- 28 Finland: 6
- 29 Italy: 5
- 30 Austria: 3
- 31 Denmark: 3
- 32 Ireland: 3
- 33 Switzerland: 3
- 34 Norway: 2
- 35 Portugal: 1
- 36 Czech Republic: 1
- 37 Poland: 1
- 38 Russia: 1 / 4
- 39 Ukraine: 2

MIDDLE EAST

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

AFRICA

- 50 South Africa: 58 / 6
- 51 Kenya: 1 / 27
- 52 Nigeria: 102
- 53 Ghana: 27
- 54 Egypt: 21
- 55 Sudan: 20
- 56 Zimbabwe: 19
- 57 Ethiopia: 18
- 58 Tanzania: 18
- 59 Cameroon: 17

- 60 Uganda: 16
- 61 Zambia: 15
- 62 Malawi: 12
- 63 Namibia: 10
- 64 Rwanda: 10
- 65 Madagascar: 9
- 66 Benin: 7
- 67 Botswana: 7
- 68 Senegal: 6
- 69 Mozambique: 5

- 70 Algeria: 4
- 71 Lesotho: 4
- 72 Sierra Leone: 4
- 73 DRC: 3
- 74 Libya: 3
- 75 Eswatini: 2
- 76 Togo: 1
- 77 Burkina Faso: 1
- 78 Chad: 1
- 79 Congo: 1

- 80 Equatorial Guinea: 1
- 81 Ivory Coast: 1
- 82 Liberia: 1
- 83 Mauritius: 1
- 84 Morocco: 1
- 85 Somalia: 1
- 86 South Sudan: 1
- 87 Tunisia: 1

00 Country Name: 00 / 00

1 Country name and location on map.

2 Number of Fellows studying in that country.

3 Number of Fellows from that country.

ASIA

- 88 Japan: 14
- 89 South Korea: 3 / 1
- 90 Indonesia: 2 / 39
- 91 Malaysia: 2 / 4
- 92 India: 1 / 77
- 93 China: 1 / 32
- 94 Singapore: 1
- 95 Taiwan: 1
- 96 Pakistan: 55
- 97 Bangladesh: 22
- 98 Nepal: 16
- 99 Vietnam: 15
- 100 Philippines: 10
- 101 Sri Lanka: 5
- 102 Thailand: 4
- 103 Afghanistan: 3
- 104 Myanmar: 3
- 105 Bhutan: 2
- 106 Cambodia: 2
- 107 Mongolia: 2
- 108 Armenia: 1
- 109 Kyrgyzstan: 1
- 110 Uzbekistan: 1

OCEANIA

- 111 Australia: 38
- 112 New Zealand: 4
- 113 Papua New Guinea: 4
- 114 Fiji: 1

THE FACULTY FOR THE FUTURE PROGRAM IN 2023: HOST UNIVERSITIES

863 FELLOWS FROM 90 COUNTRIES STUDYING IN 35 HOST COUNTRIES

- 280 United States**
- 20 Massachusetts Institute of Technology
 - 13 Texas A&M University
 - 11 University of Texas, Austin
 - 10 Georgia Institute of Technology
 - 10 Harvard University
 - 8 Pennsylvania State University
 - 7 University of Florida
 - 7 University of Illinois, Urbana-Champaign
 - 6 Stanford University
 - 6 University of California, Berkeley
 - 6 University of California, Irvine
 - 5 California Institute of Technology
 - 5 Cornell University
 - 5 Purdue University
 - 5 University of Georgia
 - 5 University of South Florida
 - 4 Carnegie Mellon University
 - 4 Columbia University
 - 4 North Carolina State 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 Michigan State University
 - 3 Northeastern University
 - 3 University of California, Davis
 - 3 University of North Carolina, Chapel Hill
 - 2 Florida International 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, Santa Barbara
 - 2 University of California, San Francisco
 - 2 University of California, Santa Cruz
 - 2 University of Colorado
 - 2 University of Connecticut
 - 2 University of Maryland
 - 2 University of Massachusetts
 - 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 Argonne-Northwestern Solar Energy Research 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 Geisel School of Medicine at Dartmouth
 - 1 George Mason University
 - 1 Indiana University Purdue University
 - 1 Lawrence Berkeley National Laboratory
 - 1 LSU Health New Orleans
 - 1 Missouri University 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 University of Arkansas at Arkansas
 - 1 University of Arkansas, Fayetteville
 - 1 University at Buffalo
 - 1 University of California, Los Angeles
 - 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 Miami
 - 1 University of Nebraska-Lincoln
 - 1 University of New Hampshire
 - 1 University of North Carolina at Charlotte
 - 1 University of Rochester
 - 1 University of Southern California
 - 1 University of Texas, Arlington
 - 1 Uni. of Texas Health Sci. Center at San Antonio
 - 1 University of Utah
 - 1 Tennessee Technological University
 - 1 Tuskegee University
 - 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 Nottingham Trent 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
- 250 United Kingdom**
- 39 University of Cambridge
 - 17 University of Nottingham
 - 15 Imperial College
 - 13 University College London
 - 13 University of Manchester
 - 11 University of Oxford
 - 9 University of Bath
 - 9 University of Bradford
 - 9 University of Southampton
 - 8 University of Leeds
 - 7 Lancaster University
 - 7 University of Reading
 - 7 University of Strathclyde
 - 6 King's College London
 - 6 University of York
 - 5 Newcastle University
 - 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
- 45 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 Free University of Berlin
 - 1 Hamburg University of Applied Science
- 39 Australia**
- 7 University of Queensland
 - 4 James Cook University
 - 4 Queensland University of Technology
 - 4 University of Sydney
 - 2 Murdoch University
 - 2 University of Adelaide
 - 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 Griffith University
 - 1 Monash University
 - 1 University of Newcastle
 - 1 University of New South Wales
 - 1 University of Western Australia
- 39 Netherlands**
- 14 IHE Delft Institute for Water Education
 - 5 Delft University of Technology
 - 5 Wageningen University
 - 5 University of Groningen
 - 4 Utrecht University
 - 3 University of Amsterdam
 - 2 University of Twente
 - 1 University Medical Center Groningen
- 38 Canada**
- 6 University of Toronto
 - 4 McGill University
 - 4 University of British Columbia, Vancouver
 - 4 University of Waterloo
 - 3 McMaster University
 - 3 University of Alberta
 - 2 University of Calgary
 - 2 University of Victoria
 - 1 Carleton University
 - 1 Ecole de Technologie Supérieure
 - 1 Ecole Polytechnique de Montréal
 - 1 Institut National de la Recherche Scientifique
 - 1 Queen's University, Canada
 - 1 Université Laval, Canada
 - 1 University of British Columbia, Kelowna
 - 1 University of Montreal
 - 1 University of Sherbrooke
 - 1 University of Western Ontario
- 22 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
- 17 European Hospital George Pompidou**
- 1 Institut Polytechnique de Paris
 - 1 National Graduate School of Engineering and Research Center
 - 1 ISAE-SUPAERO
 - 1 Université de Franche-Comté
 - 1 Université Grenoble Alpes
 - 1 Université Joseph Fourier, Grenoble
 - 1 University of Avignon
 - 1 University of Bordeaux
 - 1 University of Nantes
 - 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
- 14 Belgium**
- 7 Ghent University
 - 3 Katholieke Universiteit Leuven
 - 2 University of Liege
 - 1 University of Antwerp
 - 1 University of Mons
- 10 Spain**
- 3 Polytechnic University of Valencia
 - 2 University of Barcelona
 - 2 University of Granada
 - 1 Oceanic Platform of the Canary Islands
 - 1 University of Leon
 - 1 University of Valladolid
- 8 Sweden**
- 2 Swedish Uni. of Agricultural Science
 - 2 Umea University
 - 2 Uppsala University
 - 1 Linköping University
 - 1 Lund 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 Denmark**
- 2 University of Copenhagen
 - 1 Technical University of Denmark
- 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 Eawag
 - 1 University of Lausanne
 - 1 University of Zurich
- 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.
- 2 Portugal**
- 1 University of Algarve
 - 1 University of Lisbon
- 1 China**
- China University of Petroleum
- 1 Czech Republic**
- University of South Bohemia
- 1 Indonesia**
- Telkom Institute of Tech., Bandung
- 1 Iran**
- University of Tehran
- 1 India**
- Indian Institute of Science, Bangalore
- 1 Kenya**
- JKUAT
- 1 Mexico**
- National Autonomous Uni. of Mexico
- 1 Poland**
- University of Warsaw
- 1 Russia**
- Moscow Institute of Physics and Tech.
- 1 Singapore**
- National University of Singapore
- 1 Taiwan**
- Taipei Medical University
- 1 Turkey**
- Istanbul Technical University

Boston Forum 2023

As per the program's tradition, there is a yearly forum to which current fellows and some alumnae are invited for four days, either in the United States of America or the United Kingdom. During this forum, there are panel discussions and other activities for which stakeholders from academia, research, and NGOs are invited. There are also poster sections by the fellows. This year, the annual forum was held in October in Boston, USA. The objective of this forum is to afford opportunities for the fellows to meet each other, network with themselves and the different stakeholders invited, and learn some soft skills they can apply during their research and later in their careers.

The event was hosted in the Schlumberger Doll Research Centre (SDR) facilities. We had 50 fellows and alumnae attend. Some of the Foundation Board of Directors and executives from SLB graced the forum.

The attendees were delighted with the panel discussion on "Investing in Women Education as a Development Factor: Achieving UN Sustainable Development Goal #5 on Gender Equality" and the session on Leadership. During this forum, there was, for the first time, a virtual session where Nature Masterclass took our fellows through the much-needed soft skills required to Maximize their discoverability and communicate Science to Non-specialists.

The Forum also included sessions on managing a successful career and STEM entrepreneurship and intellectual Property. During the forum, there were a couple of sessions where the workgroup members worked in groups (between 3 and 5 groups) to examine how to pave the path for more women in science. The forum was crowned with a gala dinner at the Boston Museum of Science.



Seeding Labs Collaboration

For the past nine years, the Foundation has collaborated with Seeding Labs, a US-based NGO dedicated to increasing access to science resources in developing countries. Through Instrumental Access, Seeding Labs connects universities and research institutes with high-quality laboratory equipment and supplies.

As part of the collaborations, The Schlumberger Foundations donates a sum to Seeding Labs anytime two or more of our Fellows or Alumnae get awarded after following the very rigorous and robust selection process of Seeding Labs.

A typical Instrumental Access shipment consists of 100+ items to advance teaching and research in your home country. Participating institutions must pay a cost share, which will be reduced by about 70% (to USD 10,000) through this exclusive opportunity in 2024.

Since the inception of this collaboration, 10 of our alumnae from 9 universities have been awarded, the latest being Khanh Van Do from Phenikaa University, Vietnam and Cynthia Ibeto from the University of Nigeria, Nsukka, Nigeria.

The table below shows the list with the value of the instrumentation awards.

SCHLUMBERGER CONTRACT YEAR / EQUIPMENT ARRIVAL DATE	SCHLUMBERGER FOUNDATION FFTF FELLOW/ALUMNA NAME	UNIVERSITY		UNIVERSITY DEPARTMENT	INSTRUMENTAL ACCESS AWARD (INCL. SUPPLIES)	REPLACEMENT VALUE OF EQUIPMENT
2015 / Oct 2016	Happy Magoha	Open University of Tanzania, Tanzania		Life Sciences	195 pieces	\$372,092
2015 / Oct 2017	Aemere Ogunlaja	Redeemer's University, Nigeria		Biology	230 pieces	\$1,106,642
2015 / May 2018	Fatma Hamad Dativa Shilla	Dar es Salaam University, College of Education		Chemistry	258 pieces	\$516,519
2018 / Oct 2018	Eurydice Olga Deedi Sogbohossou	University of Abomey-Calavi, Benin		Plant Sciences	231 pieces	\$398,151
2018 / April 2018	Silvia Materu	Sokoine Uni. of Agriculture, Tanzania		Biosciences	206 pieces	\$454,320
2018 / July 2018	Muvari Tjiurutue	University of Namibia, Namibia		Chemistry & Biochemistry	178 pieces	\$420,427
2018 / Sept 2018	Adenike Modinah Oladayo Abdul Raheem	University of Ilorin, Nigeria		Chemistry	47 pieces	\$593,666
2021 / June 2021	Fikira Kimbokota	Mkwawa University, College of Education, Tanzania		Chemistry	77 pieces	\$250,751
2021 / Nov 2021	Grace Ofori-Sarpong	University of Mines and Tech., Ghana		Minerals Engineering	640 pieces	\$349,453
2023 / May 2023	Khanh Van Do	Phenikaa University, Vietnam		Medicine	145 pieces	\$413,850
2023 / Nov 2023	Cynthia Ibeto	University of Nigeria, Nsukka, Nigeria		Pure and Industrial Chemistry	271 pieces	\$286,195



Women in STEM

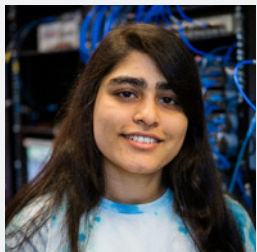
A Closer Look at some 2023 Fellows

In this section, we look closely at some profiles of the women scientists who were awarded a Faculty for the Future fellowship in 2023. These talented, self-driven scientists come from Bangladesh, Zimbabwe, Uzbekistan, Mozambique, Togo, and Papua New Guinea. 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.

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.

Imaging Superconductors and Superconducting Qubits

Sameia ZAMAN



Home Country
Bangladesh

Degree
PhD in Electrical
Engineering and
Computer Science

Expertise
Quantum Engineering
and Computing

Research Focus
Superconductors and
Superconducting Qubits

Host University
Massachusetts Institute of
Technology, United States

Fellowship Awarded
2022

Sameia Zaman hails from Rajshahi, a vibrant city in Bangladesh, where she was nurtured by parents who instilled a profound value in academic pursuit. Her academic trajectory commenced with a bachelor's degree in electrical engineering from the esteemed Bangladesh University of Engineering and Technology, where she distinguished herself by securing the second-highest grade in her graduating class. Throughout her undergraduate years, Sameia actively engaged in the mentorship of aspiring female students, driven by a deep-seated commitment to fostering inclusivity and diversity within the field. Following the completion of her undergraduate studies, Sameia embarked on a teaching journey, initially joining the faculty at the University of Asia Pacific before finding her way back to her alma mater, Bangladesh University of Engineering and Technology, as a Lecturer. Yet, her thirst for knowledge and innovation knew no bounds, propelling her toward the realm of cutting-edge research

Currently, Sameia is pursuing her Ph.D. at the Massachusetts Institute of Technology, her research focus lies at the frontier of technological advancement – superconducting quantum computing. In a world where the race for quantum supremacy intensifies, her work embodies the fusion of theory and practice, aiming to unlock the transformative potential of quantum mechanics in computing. With a keen eye for materials innovation, she explores novel superconducting materials like NbSe₂ and Nb to engineer quantum circuits of unparalleled efficiency and quality.

But for Sameia, pursuing knowledge isn't merely a personal quest; it's a mission to pave the way for future scientists in her homeland. Fueled by a profound sense of purpose, she envisions returning to Bangladesh upon completing her studies, eager to impart her wealth of experience and expertise. With a dream to establish a dynamic research group within her university, she aims to cultivate an environment where curiosity thrives, where scientific inquiry becomes a way of life, and where the next generation of innovators emerges to shape the future of technology and beyond.



Gene Editing for Herbicide Tolerance in Wheat

Edith MUGEHU



As a young girl growing up in rural Zimbabwe, Edith Mugehu lived in a world of subsistence farming, but she never dreamed that plants could become the subject of her interest in higher academia, or that the study of these subjects could constitute a successful career. Life is full of surprises.

Edith Mugehu now possesses Bachelors and Master's degrees in Crop Science from Midlands State University in Zimbabwe, a postgraduate diploma in Higher and Tertiary Education from the Great Zimbabwe University, and she was a Hubert Humphrey fellow at New York's Cornell University in 2022-23. Today she is pursuing a PhD in Plant Breeding at Australia's University of Adelaide, where her research focuses on fostering herbicide tolerance in wheat through gene editing.

"One of the biggest challenges associated with low food production in Africa is the inability of small-scale farmers to manage pests and diseases," Mugehu explains. "My work aims to help these farmers control problematic weeds in wheat without injury to the wheat itself. If we are successful, we will help foster food security and improve the livelihoods of farmers as well as entire populations throughout the continent."

When Edith Mugehu returns to Zimbabwe, she wants to be an inspiration to other young ladies from disadvantaged backgrounds in Africa, and to use her professional progression as an example of how girls can rise above their circumstances and excel.

Home Country
Zimbabwe

Degree
Ph.D. in Plant Breeding

Expertise
Crop Science

Research Focus
Gene Editing for Herbicide Tolerance in Wheat

Host University
University of Adelaide, Australia

Fellowship Awarded
2023

Improving Rainfall Forecast for Prediction of Hazards in High Mountain Asia

Gavkhar MAMADJANOVA

Gavkhar Mamadjanova was born and raised in the small industrial town of Bekabad which lies along the river Syrdarya in eastern Uzbekistan. Her parents, a steel worker father and nursery assistant mother strongly supported the academic interests of Gavkhar and her other siblings, all of whom shared her passion for science.

Gavkhar's interest came further into focus when she got to the National University of Uzbekistan, where she earned a BSc with honors in Hydrometeorology, then an MSc in Hydrology. After six years of working as a weather forecaster at Uzbekistan's Centre of Hydrometeorological Service, Gavkhar earned a PhD in Atmospheric Sciences from the University of Birmingham in England. Today with a Faculty for the Future fellowship, she is pursuing a post-doctoral degree at the University of Reading.

Gavkhar's current research is focused on the development of a new method to forecast debris flow events in the high mountains of Asia. Because of meteorological events brought on by climate change, Asia's highest mountain ranges are increasingly prone to extreme precipitation, which can cause debris to be swept down rivers, causing extreme destruction. Her research should improve the ability to predict such events, and therefore should reduce risk to local populations.

After completion of her project in the United Kingdom, Gavkhar will return to her position as Associate Senior Lecturer at the National University of Uzbekistan's Department of Hydrometeorology. She is expected to supervise PhD students and lead international research projects with the collaboration of UK institutions such as the University of Reading, University of Birmingham and ECMWF. The new research and teaching experience and publications within the Schlumberger Fellowship will enable her to obtain a full-time permanent position at the Associate Professor level in Uzbekistan.



Home Country
Uzbekistan

Degree
PostDoc in Atmospheric Sciences

Expertise
Debris Flows, Extreme Precipitation

Research Focus
Improving Rainfall Forecast for Prediction of Hazards in High Mountain Asia

Host University
University of Reading, United Kingdom

Fellowship Awarded
2023

Mycobacterium Tuberculosis Transmission Analysis: Potential Approaches for Future Use in Low-Resource, High-Burden Settings

Aureliana Chambal CHILENGUE



Home Country
Mozambique

Degree
PhD in Microbiology

Expertise
Tuberculosis

Research Focus
Mycobacterium Tuberculosis Transmission Analysis: Potential Approaches for Future Use in Low-Resource, High-Burden Settings

Host University
Nottingham Trent University, England

Fellowship Awarded
2023

Aureliana Chambal Chilengue was born and raised in Maputo, Mozambique's capital and largest city, southeast coast of Africa. Growing up in a household of four girls, education was a priority and a way of life. Her parents, with unwavering dedication, provided her with the tools for a good education, instilling in her a lifelong commitment to learning. From a tender age, she was captivated by the wonders of science and technology, and she chose to follow her older sisters' footsteps by embarking on a career in the natural sciences. This decision was not just a career choice but a testament to her passion and dedication to this field.

At 19 years old, she applied to one of the most prominent universities in Mozambique, Universidade Eduardo Mondlane, to pursue her undergraduate studies, where in 2012, she obtained a BSc in veterinary Medicine. During her studies, she was the vice president of the student's nucleus, where, together with the president, they looked for all student rights. At the end of her studies, she was involved in a research project titled "Evaluation of the Effectiveness of Albendazole, Flubendazole and Ivermectin against gastrointestinal nematodes in Goats" for her thesis. This project sparked her genuine research interest, and a unique opportunity to learn much about the field.

In 2016, she was selected by the National Institute of Health, one of the most renowned research institutions in Mozambique, to work at the Nampula Tuberculosis Reference Laboratory (NTRL) in northern Mozambique. This experience allowed her to gain valuable experience in tuberculosis (TB) research and ignited her passion for TB and the desire to pursue advanced research qualifications in this area.

Driven by her unwavering interest in TB, Aureliana sought opportunities to further her studies. In 2020, her hard work and dedication were recognized when she was awarded the prestigious Chevening scholarship to pursue a master's in Medical Bioscience at the University of Bradford in England. Her Master's project significantly contributed to the field of gene content diversity of *M. tuberculosis* Lineage 4. Her achievements did not stop there. After completing her Master's, she became the American Society for Microbiology Young ambassador to Mozambique, a role where she tirelessly advocates the importance of science for the young generation, particularly girls in primary and secondary schools.

Her PhD research is focused on the transmission of *Mycobacterium tuberculosis*; it mainly aims to look for potential approaches for future use in Low-Resource, high-burden settings. According to WHO, 2023 *M. tuberculosis* infects almost 100 million people a year, causing over 10 million active infections and 1.5 million deaths. The majority of these cases occur in specific high-burden countries, such as Mozambique.

Aureliana Chabal
CHILENGUE

Bio Cont'd

The current approach to tracking the transmission in the community is the gold-standard whole genome sequencing (WGS) of *M. tuberculosis*. However, this approach requires a lot of computational resources, making it challenging to perform in many low-resource, high-incidence environments where most TB cases occur. Aureliana hopes her research project will help in the development of a robust and feasible method to track the transmission in settings with limited computational resources.

After completing her PhD in England, Aureliana envisions a future where her knowledge and experiences can make a difference in her homeland, Mozambique. She plans to use her connections with family, friends, and research peers to foster relationships with universities and other scientific institutions. She aims to host workshops/seminars that will educate students and significantly enhance the bioinformatics and pathogen evolution research lines in low-resource settings, areas that have been identified as little explored in these countries. Her plans are a beacon of hope, promising a brighter future for scientific research in Mozambique.

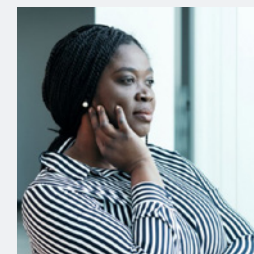
Neurobiology, Genetic engineering, Structural Biology, Developmental Biology

Ayawovi Selom AMETEPE

Selom Ayawovi Ametepe was raised in Lome, the largest city and commercial capital of the Republic of Togo, West Africa. Her parents highly supported the academic interests of Selom and her two older siblings. Her entire family encourages her to go for her dreams.

Selom holds a bachelor from the University of Lome in Biomedical sciences. She then worked for more than 5 years at the National Institute of Hygiene (NIH) of Lome where she served respectively in Microbiology and Hematology laboratories. During her time at the NIH, she trained several students during their summer or last year internships. While working she was awarded the honorific Fulbright scholarship to come to the USA and continue her education. She joined the Cell and Molecular Biology program at the University of Arkansas and got a first degree, Master of Science back in 2020 and is currently working on her PhD.

Her PhD research focuses on understanding the molecular mechanism that governs different decisions at the midline of bilaterians animal. She focuses mainly on axons early decisions of midline crossing but more precisely later decisions of their longitudinal patterning. She uses fruit fly as her model organism and intends to understand these mechanisms in order to translate them into humans that have neurodegenerative diseases, with the idea that the more we know about these diseases, the better we can cure patients. She is also studying cutting edge techniques like gene manipulation, specific case of CRISPR gene editing, but also fluorescence and confocal imaging.



Home Country
Republic of Togo

Degree
PhD in Cell and
Molecular Biology

Expertise
Axon guidance, decisions
at midline crossing

Research Focus
Neurobiology, Genetic
engineering, Structural
Biology, Developmental
Biology

Host University
University of Arkansas,
United States

Fellowship Awarded
2023

Bio Continues on the Next Page

Ayawovi Selom
AMETEPE
→
Bio Cont'd

After completion of her studies in the United States, Selom intends to return to Togo and use her contacts and colleagues to build relationships with universities and host workshops to educate high school and motivate them to choose STEM for their career. She aspires to also teach Cell and Molecular Biology at the University of Lome and contribute to train the next group of scholars. She also hopes to share her experience of research techniques and scientific processes with her previous colleagues to help polish their diagnostic and research abilities.

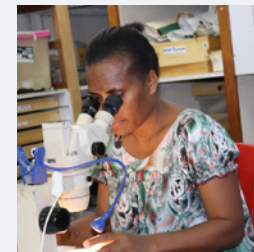
Ecological Networks and Climate Change

Francesca Florence DEM

Francesca Dem was born and raised in Kimbe, the capital town of West New Britain Province of Papua New Guinea (PNG). She has a rural upbringing, where she spent her early to adolescence years, in and interacting with the natural environment, experiencing terrestrial and marine environment. Being a top student in science since 1st grade sort of comes naturally, which leads to studying biology and chemistry at university. Progressing throughout her education, she come to understand that science and research are a very crucial aspect of human existence as it provides opportunities and curiosity to exploring new knowledge and experiences.

Francesca attended the University of Papua New Guinea (UPNG), where in 2005 she obtained a BSc in the Natural and Physical Sciences, majoring in Biochemistry. After graduation, she was offered a scholarship for 2 years, where in 2009, she graduated with a First-Class Honours degree at the UPNG. In the same year, she was again awarded a scholarship for another 2 years to continue with a Master research program, investigating distributional patterns with altitude and how the distribution of species could be impacted by climate change. In 2011, the same year she was offered two competitive Australian international scholarships to begin her PhD program at Griffith University, Australia.

The PhD research focuses on investigation distributional patterns of Hemipterans (Auchenorrhyncha with altitude in subtropical and tropical rainforests in Australia, and how potential impacts of the changes in climate would shift their distribution and associated food resources



Home Country
Papua New Guinea

Degree
PhD in Ecology and
Climate Change

Expertise
Ecological Research and
Biodiversity Conservation

Research Focus
Ecological Networks
and Climate Change

Host University
University of South
Bohemia, Czech Republic

Fellowship Awarded
2023–2024

Francesca Florence
DEM
Bio Cont'd

(host plants). Shifts in species distribution and their food resources due to changes in the climate has been of paramount research and discussion globally by scientists, environmentalists and biologists. Shifts in species distribution and food resources due to climate change will in turn affect food web networks and ecosystem functioning. It is very crucial that we understand current changes in the ecological processes in order to mitigate future changes in climate.

After completing her PhD studies, Francesca was appointed the deputy director and research supervisor at a local biological research-oriented NGO in Papua New Guinea, where she was supervising research staff and managing research project, plus facilitating postgraduate studentships (MPhil, MSc) by research. She also works very closely with overseas researchers and environmentalists in commercial industries. She was also leading by facilitating and supporting community conservation projects for indigenous communities in Papua New Guinea. Francesca plans to teach Ecology and Biodiversity at the PNG University of Technology. She also plans to start a foundation in Papua New Guinea that would provide scholarships to female students in secondary and tertiary institutions, with particular emphasis to studying female students who become pregnant while still in school but could not complete their education due to complex circumstances (culturally, socially and economically).



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