



23RD EDITION OF THE L'ORÉAL-UNESCO FOR WOMEN AND SCIENCE INTERNATIONAL AWARDS

*Five exceptional women scientists rewarded for their pioneering work
in Physical Sciences, Mathematics and Computer Science*

Paris, February 11th, 2021 - On the occasion of the International Day for Women and Girls in Science, the Fondation L'Oréal and UNESCO are unveiling the 23rd For Women in Science International Awards, which honor five eminent women scientists with exceptional careers. Representing every major region of the world, they are rewarded for the excellence of their research in Physical Sciences, Mathematics and Computer Science.

WOMEN ARE STILL UNDER-REPRESENTED IN SCIENCE

According to a UNESCO study on women in science released today, while the number of women pursuing careers in science is on the rise, reaching just over 33% of the world's researchers, progress is still too slow, particularly in Physical Sciences, Mathematics, Computer Science and Engineering.¹ Only 28% of engineering graduates and 40% of computer science graduates are women.²

"Moreover," says **Shamila Nair-Bedouelle, Assistant Director-General for Natural Sciences at UNESCO**, "*this new study shows it is not enough to attract women to a scientific or technological discipline. We must also know how to retain them, ensuring that their careers are not strewn with obstacles and that their achievements are recognized and supported by the international scientific community. While they represent 33% of researchers, only 12% of them, on average, are members of national academies of sciences around the world.*"

Not only is this a matter of equality, it is also a global social issue, particularly given that the Fourth Industrial Revolution, also known as "Revolution 4.0", will be driven by these scientific fields - precisely those where women are most absent. We are already seeing the dangerous biases generated by this lack of inclusiveness: in artificial intelligence, where women represent just 22% of people working in this field, algorithms frequently lead to discrimination mechanisms. Another alarming prospect is the over-representation of all women in jobs doomed to obsolescence: by 2050 half of all jobs in the world today are set to disappear, affecting 70% of women in a country like the United Kingdom.

It is therefore vital to act in favor of more inclusive research, and to encourage young girls to pursue careers in science, which too few still consider, despite being highly motivated to make a difference. Three out of four girls in Europe would like to contribute positively to the world through their jobs, but only 37% plan to pursue a career in science.

Alexandra Palt, Executive Vice President of the Fondation L'Oréal, says: "*The 'invisibilization' of women in science is still too significant. Today, less than 4% of the scientific Nobel Prizes have been awarded to women and the glass ceiling still persists in research. We absolutely must aspire to a profound transformation of institutions, of teaching and promotion of female researchers, of the system as a whole. While the gender imbalance remains in science, we will never be able to meet the challenges of an inclusive society or to tackle the scientific issues the world is facing.*"

23 YEARS OF ENGAGEMENT FOR WOMEN IN SCIENCE

Based on the conviction that the world needs science, and that science needs women, the Fondation L'Oréal and UNESCO are committed to the promotion of women in science, in order to render them more visible, make their talent known and inspire vocations. Since the creation of the For Women in Science program in 1998, 117 Laureates and over 3,500 talented young scientists, PhD candidates and post-doctorates have been supported and honored in 117 countries.

¹ To be smart, the digital revolution will need to be inclusive: third chapter of the UNESCO Science Report: the Race against Time for Smarter Development, due for full release in April 2021. Link to the study: <https://unesdoc.unesco.org/ark:/48223/pf0000375429>

² Source of data: UNESCO Institute for Statistics. The figures for tertiary graduates cover 120 countries. The 33.3% share of female researchers is based on data for 107 countries. These data are the most recent for the years 2015-2018.

L'ORÉAL-UNESCO FOR WOMEN AND SCIENCE INTERNATIONAL AWARDS THE 2021 FIVE LAUREATES

Every year, the Fondation L'Oréal and UNESCO celebrate the scientific excellence of five eminent women scientists, each from a major region of the world. This year, the L'Oréal-UNESCO For Women in Science International Awards honors Laureates in the field of Physical Sciences, Mathematics and Computer Science.



LAUREATE FOR AFRICA AND THE ARAB STATES

Professor Catherine NGILA – Chemistry

Acting Executive Director of the African Academy of Sciences, Former Deputy Vice Chancellor in charge of Academic and Student Affairs (DVC-AA) at Riara University, Kenya, and Visiting Professor of Applied Chemistry at the University of Johannesburg, South Africa.

Awarded for introducing and developing nanotechnology based analytical methods for the monitoring of water pollutants and applying them in countries heavily impacted by pollution. Her innovative work is of vital importance for the development of sustainable water resource management, respecting the environment.



LAUREATE FOR ASIA AND THE PACIFIC

Professor Kyoko NOZAKI - Chemistry

Professor of Chemistry at the University of Tokyo, Japan.

Awarded for her pioneering, creative contributions within the field of synthetic chemistry, and their importance to industrial innovation.

Her research has led to new, highly effective and environmentally friendly production processes to manufacture molecules useful for medicine and sustainable agriculture.



LAUREATE FOR NORTH AMERICA

Professor Shafi GOLDWASSER – Computer Science

Director of the Simons Institute for the Theory of Computing, Professor in Electrical Engineering and Computer Sciences at University of California Berkeley, RSA Professor of Electrical Engineering and Computer Science at MIT, United States of America and Professor of Computer Science and Applied Mathematics at Weizmann Institute, Israel.

Awarded for her pioneering and fundamental work in computer science and cryptography, essential for secure communication over the internet as well as for shared computation on private data. Her research has a significant impact on our understanding of large classes of problems for which computers cannot efficiently find approximate solutions.



LAUREATE FOR EUROPE

Professor Françoise COMBES – Astrophysics

Professor and Galaxies and Cosmology Chair at the Collège de France in Paris, and Astrophysicist at the Paris Observatory - PSL, France.

Awarded for her outstanding legacy in astrophysics which ranges from the discovery of molecules in the interstellar space to supercomputer simulations of galaxy formation. Her work has been crucial in our understanding of the birth and evolution of stars and galaxies, including the role played by supermassive black holes at galactic centers.



LAUREATE FOR LATIN AMERICA AND THE CARIBBEAN

Professor Alicia DICKENSTEIN – Mathematics

Professor of Mathematics at the University of Buenos Aires, Argentina.

Awarded for her outstanding contributions at the forefront of mathematical innovation by leveraging algebraic geometry in the field of molecular biology. Her research enables scientists to understand the precise structures and behavior of cells and molecules, even at a microscopic scale. Operating at the frontier between pure and applied mathematics, she has forged important links to physics and chemistry, and enabled biologists to gain an in-depth structural understanding of biochemical reactions and enzymatic networks.

About the Fondation L'Oréal

The Fondation L'Oréal supports and empowers women to shape their future and make a difference in society, focusing on three major areas: scientific research, inclusive beauty and climate action.

Since 1998, the L'Oréal-UNESCO *For Women in Science* program has worked to empower more women scientists to overcome barriers to progression and participate in solving the great challenges of our time, for the benefit of all. For 23 years, it has supported more than 3,600 women researchers from 117 countries, rewarding scientific excellence and inspiring younger generations of women to pursue science as a career.

Convinced that beauty contributes to the process of rebuilding lives, the Fondation L'Oréal helps vulnerable people to improve their self-esteem through free beauty and wellness treatments. It also enables underprivileged women to gain access to employment with dedicated vocational beauty training. On average, around 16,000 people have access to these free treatments every year and more than 18,000 people have taken part in professional beauty training, since the beginning of the program.

Finally, women are affected by persistent gender-based discrimination and inequalities, exacerbated by climate change. While they are on the frontline of the crisis, they remain under-represented in climate decision-making. The *Women and Climate* pillar of the Fondation L'Oréal supports, in particular, women who are developing climate action projects addressing the urgent climate crisis and raises awareness of the importance of gender-sensitive climate solutions.

About UNESCO

Since its creation in 1945, UNESCO, the United Nations Educational, Scientific and Cultural Organization, has been working to create the conditions for a dialogue among civilizations, cultures and people, based on respect for common values. UNESCO's mission is to contribute to the building of peace, the eradication of poverty, sustainable development and intercultural dialogue through its unique competencies in education, science, culture, communication and information. The Organization has two global priorities: Africa and gender equality.

UNESCO is the only UN specialized agency with a specific mandate in the sciences, symbolized by the "S" in its acronym. Through its science programs, UNESCO contributes to the implementation of the UN's Sustainable Development Goals and helps developing countries build their scientific and technological capacity. It also supports Member States in their efforts to develop effective public policies that integrate local and indigenous knowledge systems.

UNESCO promotes scientific research and expertise in developing countries. The Organization leads several intergovernmental programs dealing with the sustainable management of freshwater, ocean and terrestrial resources, the preservation of biodiversity, and the use of science to combat climate change and reduce disaster risk.

With its national and regional offices on all continents, UNESCO supports international scientific cooperation and works with many partners at the global, regional and national levels. Through its partners, the Organization can draw on resources, know-how and expertise to promote its ideals and values and to enhance the impact and visibility of its action in all its fields of competence.

CONTACTS – FONDATION L'ORÉAL

Aïda-Marie SALL / aida-marie.sall@loreal.com / +33 (0)6 80 00 45 59
Oriane CHASTEL / oriane.chastel@mtrchk.com / +33 (0)6 58 08 91 49
Sylvain HERTWIG / sylvain.hertwig@mtrchk.com / +33 (0)7 82 07 07 25
Chloé BASSILANA / chloe.bassilana@mtrchk.com / +33 (0)6 59 78 02 97

CONTACTS – UNESCO

Clare O'HAGAN / c.o-hagan@unesco.org / +33 (0)1 45 68 17 29
Bernard GIANSETTO / b.giansetto@unesco.org / +33 (0)1 45 68 17 64