

FOR WOMEN IN SCIENCE



L'ORÉAL
FONDATION
D'ENTREPRISE

FOR WOMEN IN SCIENCE



L'ORÉAL
FONDATION
D'ENTREPRISE

THE L'ORÉAL - UNESCO AWARDS
1998 - 2008

L'ORÉAL - UNESCO AWARDS

EXECUTIVE SECRETARIAT
L'ORÉAL CORPORATE FOUNDATION

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THE L'ORÉAL-UNESCO AWARDS 1998-2008

Launched in 1998 by L'ORÉAL and UNESCO, the "For Women in Science" Award was the first international award devoted to women in science. Today it is one element of a broad program with an international focus on scientific vocations and dedicated to recognizing the accomplishments of female researchers from every continent.

A UNIQUE PARTNERSHIP FOR A PIONEERING PROGRAM

- **Consecrating excellence through the L'ORÉAL-UNESCO Awards**, the founding act of the program. These prestigious annual distinctions awarded to five leading women researchers, one per continent, identify exceptional women as role models for the generations to come.
- **Encouraging talent through:**
 - **the UNESCO- L'ORÉAL International Fellowships**, granted annually since 2000 to 15 promising young women scientists, permit them to enhance their expertise in renowned institutions around the world.
 - **the L'Oréal National Fellowships with the support of the UNESCO National Commissions**, aid young women at the doctoral level to pursue scientific research in their home countries.

Since 1998, 57 L'ORÉAL-UNESCO Award Laureates have been recognized for their careers and 135 International Fellows have been encouraged to pursue their scientific vocations. The program of National Fellowships, already in place in 37 countries, has up to now permitted nearly 500 young women to continue their research.



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"For L'ORÉAL and its foundation, the commitment alongside UNESCO in the For Women in Science partnership is a concrete expression of our firm intention to promote women in scientific research and to participate in the creation of new careers throughout the world."

SIR LINDSAY OWEN-JONES
Chairman, L'ORÉAL
Chairman, Foundation d'entreprise L'ORÉAL



© UNESCO-Michel Ravassard

"The commitment of a group such as L'ORÉAL alongside an organization like UNESCO is a perfect example of the sort of partnership which we can engage in with the private sector."

KOÏCHIRO MATSUURA
Director-General, UNESCO

L'ORÉAL - UNESCO AWARDS

CONSECRATING EXCELLENCE

Created in 1998, the L'ORÉAL-UNESCO Awards aim to recognize, each year, five outstanding women researchers who have contributed to scientific progress. These exceptional women scientists serve as role models for the next generation, encouraging young women around the world to follow in their footsteps.

Almost two thousand eminent members of the scientific community propose candidates for the Awards. Two juries, one in the Life Sciences, the other in the Material Sciences, meet in alternating years to select the Laureates from these fields of research.

Each year, one Laureate is named from each of the five continents: Africa & Arab States, Asia-Pacific, Europe, Latin America and North America. With the 2008 Awards, 52 women, whose exceptional and exemplary careers in science have opened up new and sometimes revolutionary ways of improving human well-being, will have been recognized. Each Laureate receives US \$100,000.

The 2008 international jury in the Life Sciences was a group of 18 prominent scientists, presided by Gunter Blobel, Nobel Prize in Medicine 1999.

Koïchiro MATSUURA, Director-General of UNESCO, is Honorary President of the juries.
Christian de DUVE, Nobel Prize in Medicine 1974, is Founding President of the Awards.

"By allocating an Award to each continent, it is possible to reward women working under extremely varying conditions. We have been given a magnificent panorama of science at the service of humanity."

PR. CHRISTIAN DE DUVE

Nobel Prize in Medicine 1974 and Founding President of the Awards

INTERNATIONAL JURY 2008-2010, LIFE SCIENCES

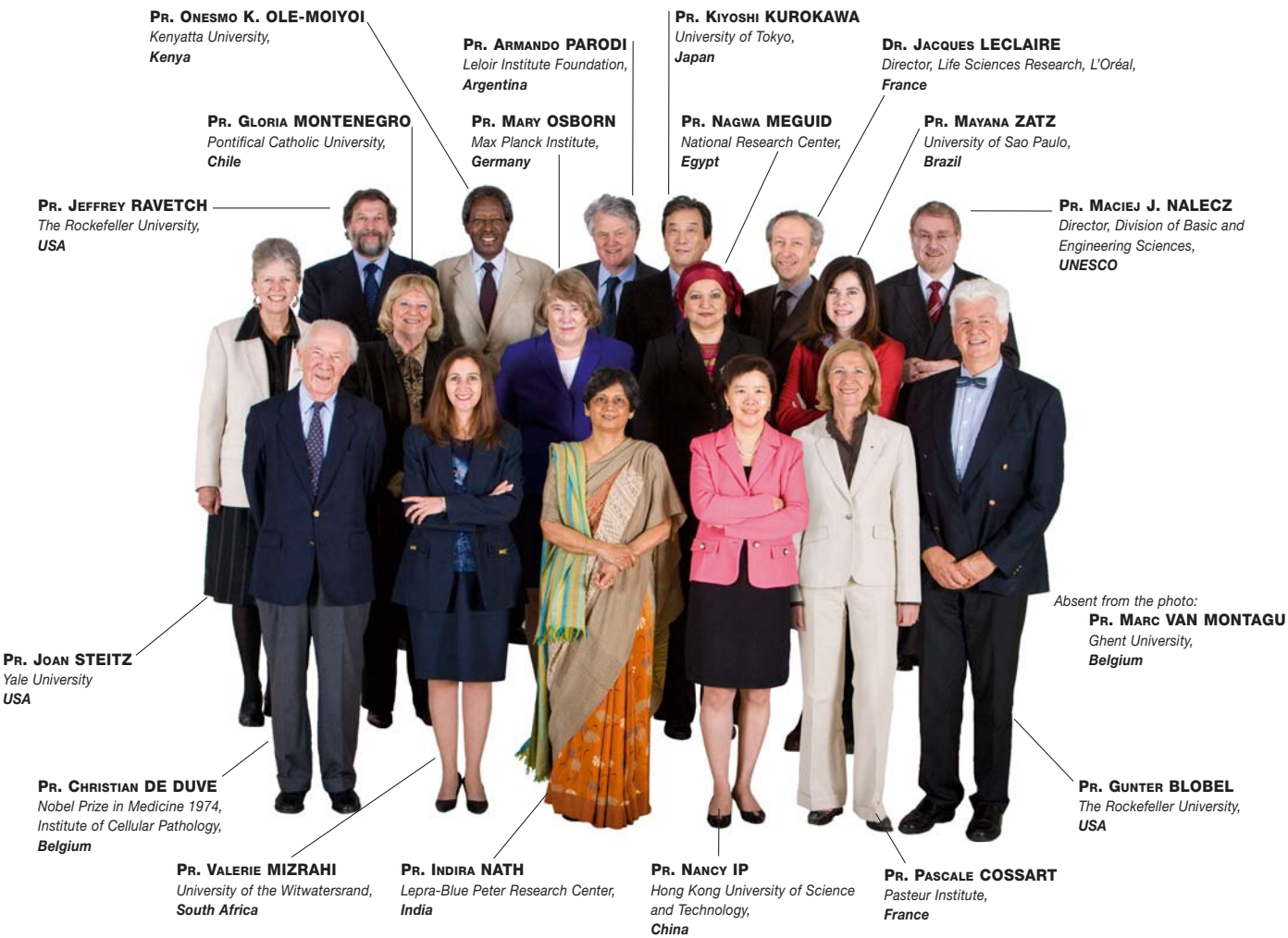
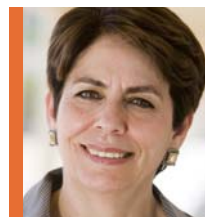


Photo: Micheline Pelletier

L'ORÉAL - UNESCO AWARDS 2008

MATERIAL SCIENCES



LAUREATE FOR AFRICA & ARAB STATES

PR. LIHADH AL-GAZALI

Professor in Clinical Genetics and Pediatrics / Senior
Consultant in Clinical Genetics Department of Pediatrics
United Arab Emirates University, Al-Ain
UNITED ARAB EMIRATES

*"For her contributions to the
characterization of inherited disorders."*

CLINICAL GENETICS: ■ Professor Lihadh Al-Gazali is a clinical geneticist and leading figure in genetics research in the Arab region. For over 17 years she has worked to educate Middle Eastern populations about clinical genetics. She has defined several new syndromes and contributed to the clinical and molecular characterization of many disorders. She established a registry for monitoring birth defects for the United Arab Emirates (UAE), the first registry from an Arab country to gain membership in the International Clearinghouse of Birth Defects.

The UAE population has a high level of consanguineous marriages (in which spouses share a common ancestor), leading to a higher incidence of recessive genetic disorders. Professor Al-Gazali has greatly contributed to building awareness of the importance of genetic counseling for the prevention of such disorders. After obtaining her medical degree from Baghdad University, she trained in medical and clinical genetics at Edinburgh and Leeds Universities in the UK. When Lihadh Al-Gazali joined the UAE University in 1990, there were no facilities for the diagnosis of genetic disorders or research facilities available in the country. She established a Clinical Genetics Service supported by cytogenetic and DNA laboratories. Today this service covers the entire UAE population, offering counseling, education, and support for families affected by genetic diseases.



LAUREATE FOR ASIA/PACIFIC

ASSOCIATE PR. V. NARRY KIM

Assistant Professor, School of Biological Sciences
Seoul National University
REPUBLIC OF KOREA

*"For elucidating the formation of a new class of RNA
molecules involved in gene regulation."*

MOLECULAR BIOLOGY: ■ V. Narry Kim specializes in the biology of microRNAs, which play an important role in gene regulation. She has made major contributions to the understanding of microRNA biogenesis, and her studies have laid the groundwork for the development of RNA interference technologies with promising potential biotechnology and medical adaptations.

MicroRNAs are small, single-stranded RNA molecules that are naturally expressed by the cells of plants and animals, including human cells. These tiny pieces of RNA function as an on/off switch for gene expression and, as a result, they control several developmental pathways that are critical to life, including the earliest formation of blood and organs, cell proliferation, and eventually cell death.

Much about the influence of microRNA and the extent of its effects remains undiscovered, but Professor Kim has demonstrated that microRNAs play key regulatory roles in fundamental cellular processes. Her research has elucidated how the expression of microRNA genes is controlled. In particular, she provided evidence that microRNA genes are transcribed by RNA polymerase II ("Pol II"), an important enzyme in genetic transcription processes. Professor Kim currently teaches at Seoul National University.



LAUREATE FOR EUROPE

PR. ADA YONATH

Professor of Structural Biology and Director, Helen & Milton A. Kimmelman
Center for Biomolecular Structure and Assembly
Weizmann Institute for Science, Rehovot
ISRAEL

*"For her structural studies of the
protein biosynthesis system and its
disruption by antibiotics."*

STRUCTURAL BIOLOGY: ■ For her research spanning over two decades in pursuit of revealing the intricate function of ribosomes based on their structure, Professor Ada Yonath is widely considered the pioneer of ribosome crystallography. She made crucial insights and developed innovative techniques to determine the ribosomal structure and introduced innovations that have become routine structural biology techniques today. Ribosomes are responsible for the production of proteins in living cells. Being able to visualize their structure was a key prerequisite to understanding protein biosynthesis, with potential applications in biotechnology, medicine, and pharmacology—in particular, to improve antibiotics that interact with bacterial ribosomes and the design of advanced antibacterial agents.

When Ada Yonath began her career, many in the international scientific community did not believe that ribosomes could be crystallized, nor their structures determined. In 1970 she initiated Israel's first laboratory for protein crystallography and in 1979 decided to attempt ribosome crystallography. In the 1980s, she and her team succeeded for the first time in crystallizing, and in 2000 the first exact three-dimensional structure of ribosomes and their complexes was determined.



LAUREATE FOR LATIN AMERICA

PR. ANA BELÉN ELGOYHEN

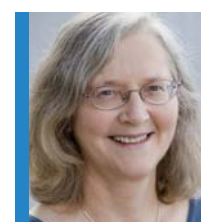
Professor, Independent Investigator
Institute for Genetic Engineering and Molecular Biology (CONICET)
University of Buenos Aires, School of Medicine, Buenos Aires
ARGENTINA

*"For her contributions to the understanding
of the molecular basis of hearing."*

AUDITORY PHYSIOLOGY: ■ Professor Ana Belén Elgoyhen studies the neurochemical mechanisms that regulate hearing. She is best known for having identified and characterized the specialized nerve receptors in the inner ear that modulate (or "remix") sounds, which enable us to read undisturbed by background noise or hear our dinner companion in a noisy restaurant.

Her pioneering studies cleared up a long-standing mystery in auditory physiology regarding the molecular nature of these specialized nerve receptors and opened new avenues to develop potential therapeutic approaches for disorders of the inner ear. Her work also greatly expanded scientists' understanding of this family of neurochemical signaling proteins involved in hearing.

The specialized cochlear nerve receptors that Professor Elgoyhen identified allow nerve signals coming from the brain to adjust the sounds received by the ear. The receptors "muffle out" certain sounds so that others can be heard above the level of background noise. Diminishing incoming sound intensity also protects the cochlear hair cells from noise-induced injury. In Argentina, Professor Elgoyhen has contributed to establishing genetic diagnostics criteria for hearing impairment. She is a member of the Tinnitus Research Initiative.



LAUREATE FOR NORTH AMERICA

PR. ELIZABETH BLACKBURN

Morris Herzstein Professor of Biology & Physiology
Department of Biochemistry & Biophysics
University of California, San Francisco
USA

*"For the discovery of the nature and
maintenance of chromosome ends and their
roles in cancer and aging."*

MOLECULAR BIOLOGY: ■ Through her pioneering work in the field of telomere biology, Professor Elizabeth Blackburn has greatly contributed to scientists' understanding of aging and cancer at the level of our chromosomes. She has devoted her career to the study of telomerase and telomeres, which are essential to protecting genetic information in the chromosomes and play a key role in aging and disease.

Professor Blackburn was the co-discoverer, in 1985, of telomerase, the enzyme that restores the ends of chromosomes by replenishing telomeres, which are the protective caps that seal off these chromosome ends. This discovery gave rise to an entirely new view of how the lifespan of normal cells is regulated and how that regulation goes awry in cancer cells.

Her research opened up a novel area of inquiry into potential cancer therapies as well as the treatment of age-related and neurodegenerative diseases. More recently, she and her colleagues have reported findings with implications for how stress may promote the earlier onset of age-related disease.

Australian-born Elizabeth Blackburn earned a PhD from Cambridge University and did her postdoctoral work at Yale University. In 2007, she was named one of Time magazine's "100 Most Influential People in the World."

L'ORÉAL - UNESCO AWARDS 2007

MATERIAL SCIENCES

LAUREATE FOR AFRICA



Pr. AMEENAH GURIB-FAKIM

Professor of Organic Chemistry and Pro-Vice Chancellor
University of Mauritius, Mauritius

MAURITIUS

*“For her exploration
and analysis of plants from Mauritius
and their bio-medical applications.”*

ORGANIC CHEMISTRY/PHYTOCHEMISTRY ■ After earning a PhD in organic chemistry from the University of Exeter, UK, Ameenah Gurib-Fakim returned to her native Mauritius, a small island in the West Indian Ocean, and began inventorying local medicinal plants and studying their pharmacological properties. The Mauritian pharmacopoeia contains more than 600 commonly used plants. No one had previously undertaken the scientific analysis of traditionally used plants from this biodiversity hotspot, and in this respect Professor Gurib-Fakim was a true pioneer. She created the first full inventory of the medicinal and aromatic plants on Mauritius and neighboring island Rodriguez and wrote several authoritative books and guides about the medicinal plants of the region.

She would like to facilitate the use of medicinal plants by educating people about their benefits and potential side effects. She is one of the founding members of the Association for African Medicinal Plants Standards, the aim of which is to bring to the world market African medicinal plants that meet trading standards. The association brings together scientists and industrialists operating in this sector. To date, it has completed 23 monographs, with 27 more in preparation. A fervent advocate for the protection and sustainable use of biodiversity, Professor Gurib-Fakim is the first woman professor and the first woman pro-vice chancellor at the University of Mauritius.

LAUREATE FOR ASIA/PACIFIC



Pr. MARGARET BRIMBLE

Chair of Organic and Medicinal Chemistry
University of Auckland, Auckland

NEW ZEALAND

*“For her contribution to the synthesis of complex
natural products, especially shellfish toxins.”*

MEDICINAL CHEMISTRY/ORGANIC SYNTHESIS ■ Margaret Brimble focuses on making and modifying bioactive compounds derived from plants, animal tissues, microbes, and marine and soil organisms. These are examples of natural products that have long been regarded as “nature’s medicine chest” because they offer a rich source of compounds with novel structures that inspire the development of new drugs. Synthesizing these compounds, which are valuable for their antimicrobial, anticancer, and antiviral activity, is a challenging scientific endeavor that forms the backbone of the pharmaceutical industry. By synthesizing natural compounds and closely related synthetic analogues, scientists glean valuable information about how they work, ultimately producing even better compounds as drug candidates.

One area in which Professor Brimble has worked extensively is the synthesis of shellfish toxins, which are associated with the algal blooms (“red tide”) that occur in coastal waters. Her research on shellfish toxins, which represent some of the most complex molecular structures known, may be applied to developing potential drugs for pain, epilepsy, hypertension, cancer, and stroke.

Margaret Brimble, who introduced the first specialist degree program in medicinal chemistry in New Zealand, is recognized for her prominent role in tertiary education. She is also a leader in the development of her country’s nascent biopharmaceutical industry.



LAUREATE FOR EUROPE

Pr. TATIANA BIRSHEIN

Professor, Institute of Macromolecular Compounds
Russian Academy of Sciences and Saint Petersburg State University.,
St Petersburg

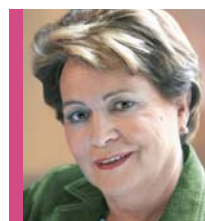
RUSSIA

*“For her contribution to
the understanding of the shapes,
sizes and motions of large molecules.”*

POLYMER PHYSICS ■ Tatiana Birshtein is a theorist whose work has focused on the statistical physics of polymers. Many important synthetic compounds are polymers: the plastics used in milk jugs and garbage bags; familiar materials such as nylon and rayon; and biomolecules, including proteins and DNA. Over the course of her prolific career, Professor Birshtein has published hundreds of papers on various aspects of the theory of polymers and made a number of important theoretical contributions to the field.

Professor Birshtein’s scientific biography is closely connected to the Institute of Macromolecular Compounds of the Russian Academy of Sciences in Saint Petersburg, where the so-called Leningrad school of polymer science was founded in the 1950s. The works of Tatiana Birshtein and other members of this school laid the groundwork for a new direction, known as the conformational statistics of macromolecules. The central theme of Professor Birshtein’s work has been her attempt to understand the physical properties of large, polymeric molecules (and polymeric systems made up of a large number of such molecules) on the basis of the properties of their component monomers.

For many years, Professor Birshtein has combined scientific and teaching activities as Professor of Molecular Biophysics on the Physics Faculty at Saint Petersburg State University.



LAUREATE FOR LATIN AMERICA

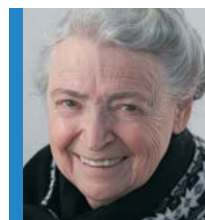
Pr. LIGIA GARGALLO

Professor, Department of Physical Chemistry
Pontifical Catholic University of Chile
Santiago

CHILE

*“For her contributions
to understanding solution properties
of polymers”.*

MACROMOLECULAR CHEMISTRY ■ Ligia Gargallo’s work has focused on the synthesis of new functionalized polymers and the characterization of their structures, conformational properties, and physico-chemical behavior. The most fascinating and useful aspect of these macromolecules, or large molecules (which include proteins and nucleic acids such as DNA), is their ability to change the conformation in different media and to organize themselves into a multitude of supramolecular structures, alone or in combination with other molecules. The main objective of Professor Gargallo’s research is to demonstrate and verify that the polymer behavior in solid and liquid states and interfaces depend on chain flexibility and the hydrophobic / hydrophilic balance. In 1974, Professor Gargallo founded the Physical Chemistry of Macromolecules Laboratory at her University, which has flourished under her leadership and is today considered one of the most productive laboratories for the study of polymer science at the international level. Hers is one of the few groups involved in polymer studies that has been able to combine the synthesis of novel polymers and the characterization of their physical and chemical properties with thermodynamic and conformational analyses of these polymers in different solvent environments. Professor Gargallo also was devoted to investigate the solution behavior of polymers in mixed solvents. In this specific field her scientific contribution has been really important. She and her group are one of the pioneers in the formulation of the Association Equilibria Theory to describe in a quantitative way the thermodynamic behavior of polymer in mixed solvents, with solvent-solvent and solvent-polymer specific interactions, over the whole composition range. Scientists are eager to improve their understanding of the mechanisms by which different polymers interact. Professor Gargallo’s work in polymer science has helped elucidate fundamental scientific questions so that researchers can develop potential applications in areas such as technology, medicine, and the environment.



LAUREATE FOR NORTH AMERICA

Pr. MILDRED DRESSELHAUS

Institute Professor of Electrical Engineering and Physics
Massachusetts Institute of Technology (MIT)
Cambridge, Massachusetts

USA

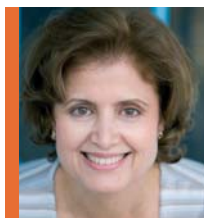
*“For her research on solid
state materials, including conceptualizing
the creation of carbon nanotubes.”*

NANOTECHNOLOGY ■ Throughout her scientific career, Mildred Dresselhaus has been a leading figure in carbon research and a guiding force in the development of the carbon science field. Among her many achievements, she provided the tools and fundamental understanding required to analyze carbon nanotubes and other nanoscale structures. Carbon nanotubes are unique structures that combine small size, extremely high mechanical strength, and high electrical conductivity. Their thin walls make them ideal for applications in nanoscale sensors, energy storage, and conversion devices. These cylindrical structures offer new avenues of development for drug delivery systems and faster, more precise catalysis of chemical reactions.

In 1992, Professor Dresselhaus wrote a seminal paper describing the relationship between carbon nanotubes’ electronic properties and their physical structures, showing that a nanotube can behave as either a metal or a semiconductor. Her insights were later confirmed experimentally. She also contributed to the materials science field earlier in her career through her elucidation of the electronic structure of graphite and related compounds. She takes a “bottom-up” approach to research in which she develops new nanoscale systems, characterizes their properties, and then sees what they can be used for. She was recently selected to receive the 2008 Buckley Condensed Matter Prize of the American Physical Society and the 2008 Oersted Medal of the American Association of Physics Teachers.

L'ORÉAL - UNESCO AWARDS 2006

LIFE SCIENCES



LAUREATE FOR AFRICA
Pr. HABIBA BOUHAMED CHAABOUNI
Professor of Medical Genetics
University of Tunis
TUNISIA

*"For her contribution
to the analysis and prevention
of hereditary disorders".*

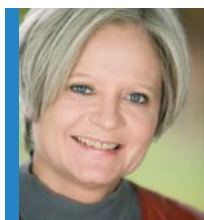
HUMAN GENETICS ■ Habiba Bouhamed CHAABOUNI has devoted her career to helping children and families affected by genetic disorders in Tunisia and to gaining recognition for medical genetics as an essential discipline. During her medical studies she witnessed the difficulties faced by families with children suffering from genetic diseases such as thalassemia, and the poor quality of care they received. This was to be a defining experience for her. Tunisia has one of the world's highest rates of consanguineous marriage, often between first cousins, and as a result a high prevalence of genetic disorders. Habiba Bouhamed CHAABOUNI worked for years to set up the infrastructure necessary for genetic counseling: training clinicians in diagnostic techniques, developing facilities, and establishing modern laboratory equipment to ensure accurate diagnoses. In 1980, genetic counseling was offered for the first time to Tunisian families. In 1993, the country's first medical genetics department was inaugurated. Professor Bouhamed CHAABOUNI has contributed to medical genetics research by defining the molecular basis of genetic disorders in Tunisia and gathering information on the genetic characteristics of the Tunisian population through the study of DNA polymorphism. She has been active in a number of international initiatives related to hereditary disease, including UNESCO's universal declaration on the human genome and human rights.



LAUREATE FOR ASIA/PACIFIC
Pr. JENNIFER GRAVES
Professor, Australian National University, Canberra
Head, Comparative Genomics Research Group
Director, ARC Centre for Kangaroo Genomics
AUSTRALIA

*"For her studies on the evolution
of mammalian genomes".*

MAMMALIAN GENOMICS ■ Jennifer GRAVES' contribution to understanding the evolution, function and organization of the mammalian genome has had a major effect on current thinking in the field. By exploiting the genetic diversity of Australia's unique mammals she has brilliantly illustrated the importance of a comparative genomics approach in modern biology, revealing valuable insights into genome evolution, as well as into mammalian development, reproduction, genetic disease, disease defence mechanisms, and species survival in general. Based at La Trobe University in Melbourne, where she spent nearly 30 years before moving to the Australian National University in Canberra in 2001, much of Professor GRAVES' career has been dedicated to studying the evolutionary history of the X and Y chromosomes. The Y chromosome is proposed to be degenerating, and Professor GRAVES has famously predicted its demise in a few million years. One of the most fascinating discoveries made in her "Jennytech Lab" was completely unexpected and changed the way biologists view sex differentiation in mammals. Her team discovered that a gene on the human Y chromosome thought to be responsible for testis development, and thus for 'maleness', was not located on the Y chromosome in marsupials. Professor GRAVES has received numerous awards and honours for her contributions to science and her efforts as an untiring advocate for comparative genomics.



LAUREATE FOR EUROPE
Pr. CHRISTINE VAN BROECKHOVEN
Professor of Molecular Biology and Genetics, University of Antwerp
Research Director at the Institute Born-Bunge
Scientific Director of the Department of Molecular Genetics,
Flanders Interuniversity Institute for Biotechnology
BELGIUM

*"For her genetic investigations
of Alzheimer's and other
neurodegenerative disorders".*

MOLECULAR GENETICS ■ As a young woman, Christine VAN BROECKHOVEN forged her way in a completely new field of emerging research, that of molecular genetics. She has since made pioneering contributions to the field and, in particular, to the molecular genetics of neurological diseases such as Alzheimer's and Charcot-Marie-Tooth disease. An exceptionally prolific scientist, Christine VAN BROECKHOVEN has made seminal contributions to the understanding of the pathology of Alzheimer's disease, the most common form of dementia, and is recognized as a world authority on the disease. Alzheimer's is a complex disease in which both genetic and environmental factors are important. Professor VAN BROECKHOVEN played a key role in identifying the genes responsible for a hereditary, early-onset form of the disease (occurring before age 65). Her research on the genes involved in the pathology of Alzheimer's has helped open up prospects for new therapies to slow the progress of the disease. In Belgium, Christine VAN BROECKHOVEN has helped awaken decision makers to the importance of allocating more resources for research into diseases such as Alzheimer's, and of providing appropriate care and support for patients and their families. Never forgetting that patients are at the centre of her research, she acts as advisor to many patient and lay organizations in Europe and the USA. She has received a number of scientific awards for her research.



LAUREATE FOR LATIN AMERICA
Pr. ESTHER OROZCO
Professor, Patología Experimental
Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional,
Mexico City
MEXICO

*"For her discovery
of the mechanism and control
of infections by amoebae
in the tropics".*

MOLECULAR PATHOLOGY ■ Endowed with a sharp sense of curiosity coupled with sensitivity, Esther OROZCO chose early in her career to study the *Entamoeba histolytica* parasite, a serious public health problem in Mexico and in many other developing countries. It colonizes the human large intestine, causing amoebic dysentery, and kills some 100,000 people each year, including many children and babies. There is currently no protective vaccine available and infection by this parasite remains the third most common cause of death from parasitic infections. Professor OROZCO has devoted her career to the study of the proteins and genes involved in the virulence of *E. histolytica*. The active form of the parasite - the trophozoite - invades the epithelial cells of the large intestine and can spread to other organs like the liver, lungs and brain by invading the intestinal venous system. She demonstrated that one of the main factors linked to virulence in the parasite is phagocytosis (the ingestion of red blood cells), a process used by trophozoites to attack tissues in the body. She discovered a protein complex secreted by trophozoites and has demonstrated that the adhesive protein adhesin 112 has strong potential as a vaccine candidate. Esther OROZCO, who has played a key role in helping her country build its scientific excellence and economic capacity, has received numerous awards and is a member of the Mexican Academy of Sciences.



LAUREATE FOR NORTH AMERICA
Pr. PAMELA BJORKMAN
Max Delbruck Professor of Biology and Investigator,
Howard Hughes Medical Institute
California Institute of Technology (CalTech)
Pasadena, California
USA

*"For her discovery
of how the immune system
recognizes targets".*

MOLECULAR BIOLOGY/IMMUNOLOGY ■ Through a rare combination of intellectual creativity and technical skills in x-ray crystallography, molecular biology and biochemistry, PAMELA BJORKMAN has made pioneering contributions to the basic understanding of how the immune system works. Her study of the structures and interactions of proteins that mediate immune recognition has led to discoveries with a major impact in autoimmune disease, HIV, cancer and iron metabolism. A turning point in her career came while she was conducting research as a graduate student and postdoctoral fellow at Harvard University: she solved the 3D structure of a major histocompatibility complex (MHC) protein. MHC proteins (known in humans as human leukocyte antigens or HLAs) are found on the surface of most cells in the body. They bind to fragments of viral proteins (peptides) in an infected cell and present them so they are recognized as foreign by white blood cells called T lymphocytes. Once the T-cells receive this alarm signal, they attack and destroy the infected cell. Solving the structure of the HLA protein led Pamela BJORKMAN to understand what goes wrong during an autoimmune disease: T lymphocytes mistakenly recognize a peptide produced by the body as a "foreign" peptide and destroy healthy cells and tissues. Professor BJORKMAN is a member of the US National Academy of Sciences and has received many awards for her work in structural biology and immunology.

L'OREAL-UNESCO TRIBUTE FOR UNESCO'S 60TH ANNIVERSARY

Christiane Nüsslein-Volhard, currently the Director of Genetics at the Max Planck Institute in Tübingen, Germany, was awarded the 1995 Nobel Prize in Medicine with Eric F. Wieschaus and Edward B. Lewis for their work on genetic development in *Drosophila*. In the late 1970s, Professor Nüsslein-Volhard accepted a position at the European Molecular Biology Laboratory in Heidelberg, where she and Eric F. Wieschaus conducted research to find out how a newly fertilized fruit fly egg develops into a fully segmented embryo. They published their results in the journal *Nature* in 1980. In 1991, with Edward B. Lewis, she received the Albert Lasker Medical Research Award, considered second only to the Nobel Prize.



Pr. CHRISTIANE NÜSSELEIN-VOLHARD
Nobel Prize in Medicine 1995

*"For her efforts in supporting
highly qualified women with children to facilitate
their progress in science."*

■ In 2006, on the occasion of UNESCO's 60th anniversary, L'Oreal and UNESCO awarded a special tribute to Christiane NÜSSELEIN-VOLHARD, accompanied by a \$100,000 donation to the Christiane Nüsslein-Volhard Foundation. Christiane NÜSSELEIN-VOLHARD, a developmental geneticist, created the foundation in 2003 for women facing the challenge of reconciling family life and research. The foundation awards fellowships to graduate students in Germany pursuing a PhD in the experimental natural sciences or in medicine who see their professional advancement held back by the added responsibility of caring for children. Financial assistance for childcare and domestic help gives mothers greater flexibility and time to devote to their scientific careers.

L'ORÉAL - UNESCO AWARDS 2005

MATERIAL SCIENCES



LAUREATE FOR AFRICA

Pr. ZOHRA BEN LAKHDAR

*Professor of Physics
Laboratory of Atomic-Molecular Spectroscopy and Applications,
Faculty of Sciences, University of Tunis El Manar
TUNISIA*

*"For her experiments and models
on infrared spectroscopy
and its applications to pollution
detection and medicine".*

ATOMIC AND MOLECULAR PHYSICS ■ Professor Zohra BEN LAKHDAR has greatly furthered the development of optics and photonics as a scientific discipline in Tunisia and all of Africa, making valuable contributions to optical science and its applications in many areas, from the environment to biotechnology. After earning a PhD in Atomic Spectroscopy from the University of Paris VI, she could have remained in Europe but chose instead to return to Tunisia, where there were almost no scientific research facilities. She began working on purely theoretical research concerning molecular interactions. At the interface between physics and chemistry, atomic and molecular physics represent an essential field, especially for developing countries. One of Professor BEN LAKHDAR's main career objectives is to conduct applied research to meet national needs in Tunisia. She has developed advanced theoretical (ab-initio) and experimental spectroscopic methods to study the influence of pollutants, such as methane and metals, on the quality of air, water, and plants. Her studies are important starting points for potential applications in a wide range of fields, from astrophysics to agriculture, medicine, pharmaceuticals, and the chemical industry. Professor BEN LAKHDAR has taught physics at the University of Tunis since 1978 and is a founding member and president of the Tunisian Optical Society. She is a leader in south-south cooperation which has led to the development of research activities in molecular interactions with ab initio calculation (quantum chemistry methods). In 1994 she was elected to the Islamic Academy of Sciences.



LAUREATE FOR ASIA/PACIFIC

Pr. FUMIKO YONEZAWA

*Professor Emeritus of Physics
Department of Physics, Keio University, Yokohama
JAPAN*

*"For her pioneering theory
and computer simulations of amorphous
semiconductors and liquid metals".*

PHYSICS OF DISORDERED SYSTEMS ■ Professor Fumiko YONEZAWA's scientific career began in the mid-1960s when, as part of her master's thesis, she proposed a new method for calculating the electronic density of states in disordered systems. This research field was in its infancy at the time, but has since grown to include the study of non-crystalline solids, amorphous materials, glass, alloys, and liquid metals. In 1968, she was one of four young scientists who, working independently, developed a groundbreaking theory called coherent potential approximation, or CPA, described as "a quiet but radical revolution" that provided a compelling explanation for various physical properties of disordered systems from a theoretical viewpoint. Professor YONEZAWA's major projects have focused on topics ranging from non-crystalline materials to computational physics and complex liquids. Her research has helped elucidate the electronic and optical properties of amorphous semiconductors with an eye to technological applications. She accomplished monumental work in the field of glass transition and, in the 1990s, she and her graduate students earned international recognition for their discovery of a completely new mechanism in metal-nonmetal transition. In 1995, she was elected the first woman president of the Physical Society of Japan, a country where less than one percent of physicists are women.



LAUREATE FOR EUROPE

Pr. DOMINIQUE LANGEVIN

*CNRS Directeur de Recherches
Laboratory of Solid State Physics, University of Paris-Sud, Orsay
FRANCE*

*"For her fundamental investigations
of detergents, emulsions and foams".*

SOFT MATTER PHYSICS ■ Professor Dominique LANGEVIN's research focuses on the dynamic behavior of interfaces, a relatively unexplored field due to the lack of easy-to-use experimental techniques. She is recognized as one of the leading scientists in the field of soft matter and surface science, although the impact of her contributions goes far beyond. The practical applications of her work have been extremely valuable for many sectors of industry, from petroleum to laundry detergents, milk proteins, hair products, nuclear waste treatment, and even the construction of a foam module for the International Space Station. At the start of her career, Dominique LANGEVIN studied light scattering at the liquid surface and made pioneering advances at the theoretical and experimental levels. She turned to more complex fluids and determined, for the first time, the molecular orientation of liquid crystals at liquid interfaces. She and her team clarified the unusual wetting behavior of microemulsions, bringing important insights to the understanding of ultra-low surface tension, of particular interest to the petroleum industry for oil recovery. Her present work is on macroscopic water-air and water-oil interfaces in relation to foams and emulsions properties, where she has obtained novel experimental observations and developed theories to interpret them. Professor LANGEVIN has played a key role in developing European networks and consortia, and continues to be a scientific leader as well as a scientist.



LAUREATE FOR LATIN AMERICA

Pr. BELITA KOILLER

*Professor of Physics
Institute of Physics
Federal University of Rio de Janeiro
BRAZIL*

*"For her innovative theoretical
research on electrons in disordered
materials such as glass."*

CONDENSED MATTER PHYSICS ■ Professor Belita KOILLER has often demonstrated her ability to develop elegant theoretical approaches to unraveling complex experimental systems. Her work has important implications for two of the most exciting fields in physics today: quantum computing and nano-science. She is a renowned theorist and an outstanding teacher, lecturer, and thesis supervisor who has inspired the younger generations of Brazilian condensed matter physicists. Belita KOILLER's innovative work has helped improve the understanding of complex condensed matter systems and opened up many research opportunities for other scientists. She has creatively adapted the most efficient tools of statistical mechanics to investigate the structure and non-equilibrium dynamics of disordered systems. She applied finite-size scaling to improve the physical understanding of alloys and impurities in semiconductors. She has made important contributions to the study of critical phenomena in systems far from equilibrium, to the interaction of intense laser fields with electrons in solids, and to semiconductor nano-structures (quantum wells and quantum dots). Her recent work is expected to have an impact on the design of quantum computing devices. Professor KOILLER has been a Senior Research Fellow of the Brazilian National Research Council since 1985 and was the first woman physicist to be elected full member of the Brazilian Academy of Sciences.



LAUREATE FOR NORTH AMERICA

Pr. MYRIAM P. SARACHIK

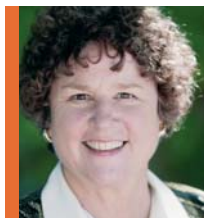
*Distinguished Professor of Physics
Department of Physics, City College of New York (CUNY), New York
USA*

*"For important experiments
on electrical conduction
and the transition between metals
and insulators".*

CONDENSED MATTER PHYSICS ■ For more than 40 years, Myriam SARACHIK has been a prominent experimental condensed matter physicist and a leader in the international physics community. Her research interests have included superconductivity, disordered metallic alloys, metal-insulator transitions, hopping transport in solids, and the properties of molecular nanomagnets. She has made seminal contributions to Kondo physics, a central theme in condensed matter physics, and the metal-insulator transition (MIT). She has shown that, contrary to conventional wisdom, a true phase transition may occur in two-dimensional systems; her group has also demonstrated macroscopic quantum mechanical spin dynamics in molecular magnets, work for which she was awarded the 2005 Buckley Prize in Condensed Matter Physics. She and her team are currently studying condensed matter properties at low temperatures, particularly in two areas: molecular nanomagnets and the novel behavior of two-dimensional electron systems. Myriam SARACHIK served as president of the American Physical Society in 2003, only the third woman president in the society's 105-year history. The City of New York gave her a public service award in 2004 for "blazing trails as a scientist, researcher, teacher, mentor, and humanitarian." She is a member of the U.S. National Academy of Sciences and a fellow of the American Academy of Arts and Sciences. Professor SARACHIK is also an active member of the National Board of the Committee of Concerned Scientists, and member of the NY Academy of Sciences' Committee on Human Rights of Scientists.

L'ORÉAL - UNESCO AWARDS 2004

LIFE SCIENCES



LAUREATE FOR AFRICA

PROFESSOR JENNIFER THOMSON
Department of Molecular and Cell Biology
University of Cape Town
SOUTH AFRICA

*"For her development of
transgenic plants resistant to viral infections,
drought, and other risks."*

MOLECULAR BIOLOGY ■ Jennifer THOMSON has devoted much of her research career to the development of genetically modified plants to improve agricultural productivity and food quality in developing countries.

Over the last decade her research group has developed an experimental variety of transgenic maize resistant to the Maize Streak Virus (MSV), a disease which has devastating effects on smallholder agriculture in parts of Africa where maize is the staple food and livestock forage crop. One of her team's recent projects concerns the engineering of transgenic agricultural crops with a high tolerance for drought and other stresses, such as high salinity and heat.

Pr THOMSON's expertise in the field of GMO research and regulatory issues has been widely recognized by the international community. She has been an expert advisor on the subject to the World Health Organization and has spoken at the World Economic Forum in Davos. In November 2002, she addressed the United Nations General Assembly on the theme of genetically modified crops for developing countries.

Jennifer THOMSON co-founded the Association of South African Women in Science and Engineering and has been a member of the African Academy of Sciences policy committee on research priorities for the education of girls and women in Africa. In 2001, she was made a fellow of the Royal Society of South Africa.



LAUREATE FOR ASIA/PACIFIC

PROFESSOR NANCY IP
Department of Biochemistry and
Biotechnology Research Institute,
Hong Kong University of Science and Technology,
Hong Kong
CHINA

*"For her discoveries
on the molecular control of growth,
differentiation, and synapse formation
in the nervous system."*

MOLECULAR NEUROBIOLOGY ■ Nancy IP is a world-renowned neuroscientist in the areas of neurotrophic factors and neuronal signal transduction. She has identified a number of novel neurotrophic factors and demonstrated how they activate specific receptor molecules on nerve cells. Her pioneering research has provided insights into how these proteins affect the differentiation and maintenance of neurons during brain development. These studies have led to the identification of neurotrophic factors as potential pharmaceutical agents in the treatment of neurodegenerative disorders, such as Alzheimer's and Parkinson's diseases.

Pr IP's research also contributes to a better understanding of the formation of synapses, the sites of communication between nerve cells. Notably, her discovery of novel signaling mechanisms at the neuromuscular junction may provide important clues in the treatment of nerve-muscle disorders.

Pr IP has garnered many awards and honors and in 2001 was inducted into the Chinese Academy of Sciences. In parallel to her research in neuroscience, Pr IP plays a key role in developing the biotechnology and biopharmaceutical potential in Hong Kong. As Director of the Biotechnology Research Institute, she has recruited a critical mass of expertise and established state-of-the-art research facilities for engaging in cutting-edge drug discovery and development. She is also Head of Biochemistry and Associate Dean of Science at the University.



LAUREATE FOR EUROPE

PROFESSOR CHRISTINE PETIT
Genetics of Sensory Defects Laboratory
Institut Pasteur, Paris
FRANCE

*"For her elucidation of the genetic defects
in hereditary deafness
and other sensory disorders."*

GENETICS / SENSORY PHYSIOLOGY ■ Christine PETIT is best known for her contribution to understanding the genetic basis of sensory disorders. As a pioneer in the field of inherited deafness, her work has benefited many affected families worldwide.

Pr PETIT isolated the genes underlying 15 forms of deafness and demonstrated that, even though 100 different genes may cause congenital deafness, a single gene is responsible for about half of the congenital forms. As a result, in developed countries congenital deafness is now known to be of genetic origin in 80% of cases. Moreover, genetic counseling made available to families of deaf children has improved thanks to the development of molecular diagnosis. Christine PETIT showed how to identify the genes involved in deafness and helped elucidate the underlying mechanisms in Usher syndrome type I, a severe disorder combining deafness and blindness. She also identified genes responsible for Kallman syndrome, the only hereditary human disease causing a loss of olfaction.

Pr PETIT is the Head of the Genetics of Sensory Defects Laboratory at Institut Pasteur and holds the chair of Genetics and Cellular Physiology at the Collège de France in Paris. In addition to several scientific awards, in 2002 she was nominated Chevalier de l'Ordre de la Légion d'Honneur, one of the highest awards of the French state. In the same year, she was elected to the French Academy of Sciences. In 2004, she received the "Recherche & Médecine" prize from the Institut des Sciences de la Santé.



LAUREATE FOR LATIN AMERICA

PROFESSOR LUCIA MENDONÇA PREVIATO
Biophysics Institute,
Federal University of Rio de Janeiro
BRAZIL

*"For her achievements
in the understanding, treatment and
prevention of Chagas' disease."*

BIOPHYSICS / PARASITOLOGY ■ Lucia MENDONÇA PREVIATO's career has been principally devoted to the study of the cell surface of Trypanosoma cruzi, the protozoan parasite responsible for Chagas' disease in humans.

Chagas' disease is endemic to Latin America and is thought to affect some 16 to 18 million people on the continent. In its chronic form it leads to death from fatal damage to the heart and digestive tract. It is transmitted to humans mainly via a blood-sucking insect, which acts as a vector for the parasite. There is currently no effective vaccine to prevent the disease and available drug therapies, which cause severe side effects, are ineffective for the chronic form of the disease.

Pr MENDONÇA PREVIATO hopes to develop a means of blocking the parasite before it disrupts the cell and enters the human bloodstream. Her research group was the first to discover that the parasite scavenges a crucial molecule, sialic acid, which plays a role in helping the parasite attach itself to the host. Sialic acid can also reduce the effectiveness of the host's immune response.

Pr MENDONÇA PREVIATO is investigating the molecular mechanisms involved in this interaction. The enzyme responsible for the transfer of the host's sialic acid to the parasite is a prime target for new drugs and improved vaccines for Chagas' disease.



LAUREATE FOR NORTH AMERICA

PROFESSOR PHILIPPA MARRACK
National Jewish Medical and Research Center,
Denver, Colorado
USA

*"For her characterization
of the functions of T lymphocytes in immunity
and the discovery of super-antigens."*

MOLECULAR BIOLOGY / IMMUNOLOGY ■ Philippa MARRACK is one of the world's leading research scientists investigating T cells - the family of cells that help the body fight off disease - and their effect on the immune system.

Professor MARRACK's research into T cell tolerance, the phenomenon which causes the removal of T cells which could destroy their own host, has been crucial in understanding autoimmune disease and in vaccine development, HIV research, and the treatment of allergy and asthma attacks. Pr MARRACK is also recognized for her discovery of "super-antigens," toxins produced by certain micro-organisms such as staphylococci, which stimulate very large numbers of T cells and provoke the violent symptoms associated with food poisoning, for example.

Born in the United Kingdom, Philippa MARRACK earned undergraduate and doctoral degrees from the University of Cambridge and has worked in the USA since 1971. In addition to holding several academic positions, she is a member of the US National Academy of Sciences and a fellow of the UK's Royal Society. During her career, Philippa MARRACK has published more than 300 peer-reviewed journal articles and has served on the editorial board of numerous journals, including Cell, Science, and the Journal of Immunology.

Currently President of the International Union of Immunologists, Philippa MARRACK received the American Association of Immunologists Lifetime Achievement Award in 2003.

L'ORÉAL - UNESCO AWARDS 2003

MATERIAL SCIENCES

FOR ITS FIFTH EDITION, THE L'ORÉAL-UNESCO AWARDS FOR THE FIRST TIME DISTINGUISHED FIVE WOMEN SCIENTISTS WHO CONTRIBUTED TO DECISIVE ADVANCES IN THE STUDY OF MATERIAL SCIENCES.

THIS CHOICE REFLECTS A NATURAL EXTENSION OF THE AWARDS, AS MATERIAL SCIENCES AND LIFE SCIENCES ARE MUTUALLY ENRICHING AND THE FRONTIER THAT SEPARATES THEM IS BECOMING MORE AND MORE BLURRED.



LAUREATE FOR AFRICA

Pr KARIMAT EL-SAYED
Ain Shams University, Cairo
EGYPT

"For her work on crystal growth, including the formation of kidney stones."

PHYSICS ■ After completing her thesis at University College, London University, Karimat EL-SAYED returned to Egypt, where she was appointed to the Physics Department of the Science Faculty of Ain Shams University in Cairo. There she undertook and published most of her work concerned with structures (finding the distribution of atoms and impurities in atoms inside materials), micro structural properties and application of low concentrations of constituents of materials relevant to industrial metallurgy, and semi-conducting materials.

Thanks to the expertise she acquired regarding crystal growth, Pr EL-SAYED has analyzed the formation of urinary stones. She is also active in training future scientists, particularly women, and in developing applications of her research results for industry.



LAUREATE FOR ASIA/PACIFIC

Pr FANG-HUA LI
Institute of Physics,
Chinese Academy of Sciences, Beijing
CHINA

"For her discovery of novel techniques in electron microscopy."

ELECTRON MICROSCOPY ■ Pr Fang-Hua LI has worked on structures and defects of crystals and quasicrystals by means of electron diffraction and electron microscopy. She was one of the first to realize that a combination of diffraction crystallography and high-resolution electron microscopy (HREM) could obtain the structures with more faithful and more perfect details than those seen directly from the microscope images. For this Fang-Hua LI developed first an image contrast theory, and then set two electron crystallographic image processing techniques with her new theory as the base.

These techniques have been successively applied to crystal structure and defect determination.



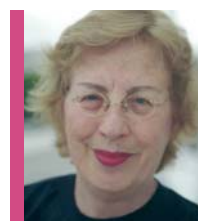
LAUREATE FOR EUROPE

Pr AYSE ERZAN
Istanbul Technical University,
Istanbul
TURKEY

"For her theoretical work on the formation of tree-like structures."

CONDENSED MATTER PHYSICS ■ Physicists have long understood that large classes of seemingly unrelated phenomena, such as lightning, or water seeping into plaster, or bacterial colonies growing in a Petri dish, may all produce fractal patterns that are very similar to each other, not only in their appearance, but also in the way in which their formation can be described in the language of mathematics. Ayse ERZAN has been able to deduce, from the rules governing the growth of such a pattern at the microscopic level, its properties at all scales.

Besides the physics of fractals, Pr ERZAN has most recently been involved in investigating mathematical models of genetic evolution.



LAUREATE FOR LATIN AMERICA

Pr MARIANA WEISSMANN
Argentine National Research Council,
Buenos Aires
ARGENTINA

"For her theoretical studies on novel forms of carbon."

COMPUTATIONAL CONDENSED MATTER PHYSICS ■ Pr WEISSMANN has been a pioneer in the use of computers to study the properties of materials in Latin America. These calculation techniques are now a completely separate field of physics. For example, she has recently become interested in fullerenes, the third form of pure carbon (after graphite and diamond), discovered in the 1980s. In her research group, they have calculated the possibility of doping them with silicon and also the paths for fragmentation when excited with laser light.

Mariana WEISSMANN was the first woman to be elected to Membership in the National Academy of Exact, Physical and Natural Sciences of Argentina.



LAUREATE FOR NORTH AMERICA

Dr JOHANNA M.H. LEVELT SENGERS
National Institute of Standards
and Technology (NIST),
Gaithersburg, Maryland
USA

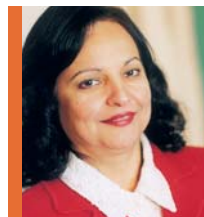
"For her experiments on critical opalescence in fluids."

THERMODYNAMICS ■ The research of Dr LEVELT SENGERS has centered on the behavior of fluids near critical points. She showed that fluids obey the universal critical-point scaling laws first discovered in theoretical models and magnetic systems. With her collaborators, she published extensively on properties of near-critical fluids and fluid mixtures of importance in the chemical process industry.

She and her NIST colleagues, working in an international setting, have contributed in many ways to better characterization of water and steam properties for scientific applications and for the electric power industry. Dr LEVELT SENGERS is a member of the National Academy of Engineering and of the National Academy of Sciences of the United States.

L'ORÉAL - UNESCO AWARDS 2002

LIFE SCIENCES



LAUREATE FOR AFRICA

Pr NAGWA MEGUID
National Research Center,
Cairo
EGYPT

"For her systematic genetic investigations of Down syndrome and other neurological conditions in the Mediterranean region."

HUMAN GENETICS ■ In treating a large number of patients, Nagwa MEGUID has studied genetic malformations which are common in her country and affect certain populations of the Mediterranean basin. Her clinical and biochemical observations and diagnosis of new genetic syndromes leading to mental illness and trisomy 21 (Downs syndrome) have constituted a significant database for fundamental genetic researchers.

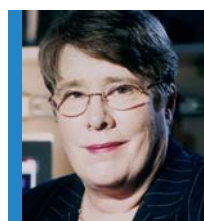


LAUREATE FOR ASIA/PACIFIC

Pr INDIRA NATH
All India Institute of Medical Sciences,
New Delhi
INDIA

"For her fundamental contributions to the pathogeny, prevention and treatment of leprosy."

IMMUNOLOGY ■ Indira NATH is a celebrity not only in India, but is an internationally renowned authority on leprosy, a widespread disease in her country and on her native continent. Of the numerous people who may contract the leprosy bacillus, not all of them develop the same form of the disease. Among those who develop lepromatous leprosy, its most serious form, Indira NATH has identified a mechanism associated with the triggering of the pathology: a deficiency in the immune response system. The discovery constitutes a significant advance towards the development of treatments and vaccines. In 2003, Pr NATH was awarded a Doctorate Honoris Causa by Pierre and Marie Curie University, Paris, and was named Chevalier of the National Order of Merit by the President of France.



LAUREATE FOR EUROPE

Pr MARY OSBORN
Max Planck Institute of Biophysical Chemistry,
Göttingen
GERMANY

"For her development of immunofluorescence microscopy as a tool for the study of cytoskeletal structures."

CELL BIOLOGY ■ Mary OSBORN is one of the pioneers of immunofluorescence microscopy, a technique that today is used in laboratories throughout the world. This technology can be used to locate proteins in particular cell structures and reveals the complex and diverse elements present in the cell cytoplasm and cell nucleus. Her work has many important applications and has resulted in new reagents that can be used in the differential diagnosis of human tumors.



LAUREATE FOR LATIN AMERICA

Pr ANA-MARÍA LÓPEZ-COLOMÉ
Institute of Cellular Physiology,
National Autonomous University,
Mexico City
MEXICO

"For her discoveries of the molecular pathways involved in vision and pathological alterations."

NEUROSCIENCES AND BIOCHEMISTRY ■ In her laboratory at the Mexican Institute of Cellular Physiology, Ana-María LÓPEZ-COLOMÉ has devoted herself to the study of molecular mechanisms underlying normal retina function, and the alteration of these processes implicated in serious diseases of the retina, that due to deficiencies in neurotransmission mechanisms, lead to total blindness. Her work has led to the development of experimental models for the study of serious pathologies such as retinitis pigmentosa and proliferative vitreoretinopathy, which are frequent causes of blindness.



LAUREATE FOR NORTH AMERICA

Pr SHIRLEY TILGHMAN
President, Princeton University,
New Jersey
USA

"For her discovery of parental imprinting and its role in embryological development."

GENETICS ■ One of the foremost geneticists of her generation, she was part of the team that cloned the first mammal gene. The jury honored her for her significant contribution to the discovery and understanding of "genetic imprinting" in mammals. Shirley TILGHMAN succeeded in demonstrating how, during the development of the embryo, certain genes express themselves differently depending on whether they have been transmitted by the father or the mother. These variations in the way genes are expressed can prove crucial in certain cases. For example, she has demonstrated that only the maternal copy of the H19 gene is expressed, while the paternal copy remains silent. Normal development of the embryo depends on the correct functioning of this mechanism. Shirley TILGHMAN has received numerous international honors. In June 2001, she became the first woman President of Princeton University.



L'OREAL TRIBUTE TO A LIFE ACHIEVEMENT

MARIANNE GRUNBERG-MANAGO
Emeritus Director of Research,
CNRS, Paris
FRANCE

"For her lifetime achievements and exceptional participation in the development of modern molecular biology."

BIOCHEMISTRY ■ A former President of the French Academy of Sciences, Marianne GRUNBERG-MANAGO, the first woman to hold this appointment, is one of the greatest scientists of her era. She has devoted herself to fostering the development of women's place in science. At the age of 33, she discovered an enzyme which was to play a key role in understanding the genetic code, alongside Severo OCHOA, for whom this work earned the Nobel Prize in Medicine. In France, she became Director of Research at the CNRS national research center in 1961, and later became head of the Department of Biochemistry at the Institute of Physicochemical Biology (IBPC) where she continued her work on the genetic code and the regulation of gene expression. Her career is distinguished by over 300 articles published in international journals, and by numerous posts held in major national and international scientific organizations.

L'ORÉAL - UNESCO AWARDS 2001

LIFE SCIENCES



LAUREATE FOR AFRICA

Pr ADEYINKA GLADYS FALUSI
Postgraduate Institute for Medical Research
& Training of the College of Medicine,
University of Ibadan, Ibadan
NIGERIA

*"For her molecular-genetic
identification and classification
of hereditary blood diseases
in Africa."*

MOLECULAR GENETICS ■ For 28 years, Pr FALUSI has studied the molecular genetics of hereditary blood diseases frequently found in Nigeria, such as thalassemia sickle cell disease (drepanocytic anaemia), glucose 6 phosphate dehydrogenase and malaria. She has thus paved the way for the prevention of some of these disorders, opening up possibilities for prenatal diagnosis. In addition to her fundamental research, she is currently Vice-President of the Sickle Cell Association of Nigeria, which she founded in Ibadan. She is currently Director of her Institute and Chair of the UI/UCH Institutional Review Board which she has been instrumental in upgrading to an international standard. In 2003, she received the Rare Gems Award in the Science & Technology category to mark International Women's Day in Nigeria.



LAUREATE FOR ASIA/PACIFIC

Pr SUZANNE CORY
The Walter and Eliza Hall Institute
of Medical Research,
Melbourne
AUSTRALIA

*"For her contributions
to our understanding of the genetic basis
of human lymphoma and other
cancerous conditions."*

MOLECULAR GENETICS ■ Director of The Walter and Eliza Hall Institute of Medical Research, Pr Suzanne CORY is renowned worldwide for her work on molecular biology of the immune system. Working with her husband Pr Jerry Adams, she has done fundamental, pioneering research into the genetic alterations related to lymphomas, particularly bringing to light the role of chromosome damage and the increased survival of cells, breakthroughs of great clinical importance for the development of cancer diagnostics and treatment. In 2002, Suzanne CORY was elected an Associate Foreign Member of the French Academy of Sciences, as well as being awarded the Royal Medal of the UK's Royal Society.



LAUREATE FOR EUROPE

Dr ANNE Mc LAREN
Gurdon Institute, Cambridge
UNITED KINGDOM

*"For her discoveries
in reproductive biology,
which have paved the way to human
assisted reproduction."*

REPRODUCTIVE BIOLOGY ■ Group Leader at the Gurdon Institute in Cambridge, Anne McLAREN has been a pioneer in reproductive and developmental biology. In 2002 she was jointly awarded the Japan Prize for pioneering work on mammalian embryonic development. For 40 years she has been actively engaged in issues relating to the ethical, social and legal aspects of assisted reproduction. She was a member of the Warnock Committee, and for 10 years a member of the Human Fertilisation and Embryology Authority, instrumental in improving the lot of infertile women around the world.



LAUREATE FOR LATIN AMERICA

Pr MAYANA ZATZ
University of Sao Paulo,
Sao Paulo
BRAZIL

*"For her contributions to the pathology,
diagnosis and management of hereditary
neuromuscular disorders."*

GENETICS ■ Since 1989, her laboratory group at the University of Sao Paulo has performed integrated DNA research, protein analysis and clinical assessment focusing mainly on patients affected by different forms of inherited neuromuscular disorders. Mayana ZATZ has devoted her life in science to research related to neuromuscular disorders, mainly muscular dystrophy, and has also been active in working to improve the quality of life of affected families. Her group has mapped six new genes responsible for neuromuscular disorders. She has collaborated with several groups abroad on research for establishing genotype: phenotype correlations. She also participated in the sequencing of the first plant pathogen (Xylella). Professor ZATZ is the founder and president of the Muscular Dystrophy Association of Brazil.



LAUREATE FOR NORTH AMERICA

Pr JOAN ARGETSINGER STEITZ
Yale University
USA

*"For her discoveries of
the structure, biological functions and pathological
implications of small RNA molecules."*

MOLECULAR BIOPHYSICS AND BIOCHEMISTRY ■ Pr Joan Argetsinger STEITZ is world-renowned for her discoveries in the field of molecular biology regarding the action of small RNA molecules that play a role in regulating gene expression. In particular, her work has advanced the diagnosis and treatment of certain rheumatic autoimmune diseases. Insights from her studies led eventually to the development of our understanding of RNA splicing, which has had a major impact on modern cell and molecular biology.

L'ORÉAL - UNESCO AWARDS 2000

LIFE SCIENCES

LAUREATE FOR AFRICA



Pr VALERIE MIZRAHI

Molecular Mycobacteriology
Research Unit, National Health Laboratory Service
and University
of the Witwatersrand
SOUTH AFRICA

*"For her contributions to
the fight against tuberculosis and
other infectious diseases."*

MOLECULAR BIOLOGY ■ Valerie MIZRAHI's research in molecular biology led to early recognition of her achievements. Still in her early 40's, she made significant contributions to the enzymology of HIV, the virus that causes AIDS, and her recent work has focused on mycobacterium tuberculosis. She currently heads the Molecular Mycobacteriology Research Unit at the National Health Laboratory Service and University of the Witwatersrand. Professor MIZRAHI has created a center of excellence around her activities and has a growing number of highly talented students.

LAUREATE FOR ASIA/PACIFIC



Pr TUNEKO OKAZAKI

Institute of Comprehensive Medical Science,
Fujita Health University,
Aichi
JAPAN

*"For her discovery
of the molecular mechanism of
retrograde DNA replication."*

MOLECULAR BIOLOGY ■ Tuneke OKAZAKI spent most of her career as a molecular biologist at Nagoya University, where she became the first female professor - a very rare example in Japan among women of her generation. Her main achievements are her work on DNA replication and chromosome segregation. She has also trained many young scientists who now occupy leading roles in life sciences research. From 1997 to 2002, she was a professor, and since 2003 she is a guest professor at the Institute of Comprehensive Medical Science, Fujita Health University, where she is continuing her research on human artificial chromosomes. In November 2000, Professor OKAZAKI was presented with the highly respected Medal with Purple Ribbon, an honor reserved by the Japanese government for those who have made outstanding contributions in academic or artistic fields.

LAUREATE FOR EUROPE



Pr MARGARITA SALAS

Spanish Research Council, Madrid
SPAIN

*"For her fundamental
contributions to our understanding
of DNA replication."*

MOLECULAR BIOLOGY ■ One of Europe's leading molecular biologists, Margarita SALAS has been a research professor at the Spanish Research Council, Madrid, since 1974. During her long career, she has made important contributions to our understanding of the molecular mechanisms that govern the replication of DNA, an essential process in human biology. She is one of the founders of modern biomedical research in Spain, and her dedication and leadership have had a major impact on its development throughout Europe, inspiring generations of younger researchers.

LAUREATE FOR LATIN AMERICA



Pr EUGENIA MARIA DEL PINO VEINTIMILLA

Pontifical Catholic University of Ecuador,
Quito
ECUADOR

*"For her original investigations
on the biology of marsupial tree frogs
and her efforts on behalf of conservation
in the Galapagos Islands."*

BIOLOGY ■ Eugenia Maria Del PINO VEINTIMILLA maintains a successful research program at the Pontifical Catholic University, where she is a professor of biology. Her two main interests are the conservation of the Galapagos Islands and the reproductive and developmental physiology of the marsupial tree frog, about which practically nothing was known before she began her work. She helped the Charles Darwin Foundation for the Islands to set up a scholarship program to train students in research methodology. Some of those students have since become international conservation leaders. Eugenia Maria Del PINO VEINTIMILLA has recently received The Sheth Distinguished International Emory Alumni Award, a distinction from the American university where she completed her doctorate.

LAUREATE FOR NORTH AMERICA



Pr JOANNE CHORY

Howard Hughes Medical Institute
and Salk Institute for Biological Studies,
La Jolla
USA

*"For her elucidation
of the mechanisms involved in the response
of plant organisms to light."*

MOLECULAR BIOLOGY ■ Joanne CHORY is one of the world's leading researchers in plant molecular biology. In recognition of her achievements, she was elected to the United States National Academy of Sciences at the age of 44. Her seminal contributions in two areas - genetic analysis of mutant seedlings and the discovery of the role of a class of plant steroid hormones - have clarified the way growing plants respond to light. Dr CHORY is a professor at the Howard Hughes Medical Institute and the Salk Institute for Biological Studies in La Jolla, California and director of the institute's Plant Biology Laboratory.

L'OREAL TRIBUTE TO A LIFE ACHIEVEMENT



Dr THRESSA STADTMAN

Laboratory of Biochemistry, National Heart,
Lung and Blood Institute, National Institutes of Health,
Bethesda, Maryland
USA

*"For her lifetime achievements
in biochemical research, in particular
her elucidation of selenium utilization
and functions."*

BIOCHEMISTRY ■ Dr Thressa STADTMAN began her career over 50 years ago, when there were very few women scientists. She has had an extraordinary career as a biochemist and teacher. She has published over 180 scientific articles on topics as varied as the role of vitamin B12, and the functions of selenium and selenocysteine. A member of the American National Academy of Sciences since 1981, she is internationally recognized by the scientific community.

L'ORÉAL - UNESCO AWARDS 1998

LIFE SCIENCES



LAUREATE FOR AFRICA

EMERITUS PR G.O.L. OLANIYAN-TAYLOR
Ibadan University
NIGERIA

*"For her contributions
to the epidemiology of cardiovascular
disease in Africa."*

BIOCHEMISTRY ■ Pr Grace Oladunni L.TAYLOR, a biochemist at Ibadan University specializing in lipid metabolism, has taught medicine in Nigeria and other African countries. Her research has led to a better understanding of the risk factors in cardiovascular disease. By comparing the lipid profiles of different ethnic and socio-economic groups, for instance, she has shown that varying cholesterol levels are due to diet and lifestyle rather than race.



LAUREATE FOR ASIA/PACIFIC

PR MYEONG-HEE YU
Korean Institute of Science and Technology,
Seoul
REPUBLIC OF KOREA

*"For her discoveries
of protein folding and its relationship
to human pathology."*

MICROBIOLOGY ■ Pr Myeong-Hee YU, a leading researcher at the Korean Institute of Science and Technology, has spent 20 years investigating the conformational transition process of proteins. Her work on the stability of the alpha -1 antitrypsine has established a direct link between a biological marker and genetic emphysema. Related studies could shed new light on other genetic diseases such as mucoviscidosis.



LAUREATE FOR EUROPE

PR PASCALE COSSART
Bacteria-Cell interaction Unit, Institut Pasteur,
Paris
FRANCE

*"For her elucidation of
the mechanisms whereby pathogenic
bacteria subvert immune defenses."*

BACTERIOLOGY ■ Pr Pascale COSSART heads the "Bacteria-Cell interactions" unit at the Institut Pasteur in Paris. She is a member of the Académie des Sciences. For fifteen years she has been analyzing the behavior of listeria monocytogenes, a bacterium which causes listeriosis, a severe food-borne infection that is especially dangerous to pregnant women and babies. Her research has highlighted how bacteria exploit the cell to establish an infection. The results have important repercussions in Cell Biology and Molecular Medicine.



LAUREATE FOR LATIN AMERICA

PR GLORIA MONTENEGRO
Faculty of Agronomy and Forestry Sciences
Pontificia Universidad Catolica de Chile,
Santiago
CHILE

*"For her efforts to apply
modern science to the protection
of plant ecosystems."*

BIOLOGY ■ Pr MONTENEGRO is President of the Chilean Botanical Society and works in the ecology division of the Catholic University of Chile, Department of Biology. A pioneer in her field, she has transposed findings about foreign ecosystems for native Chilean flora. The results of her research have paved the way for rehabilitation programs in areas hit by natural disasters such as fires and desertification.