





SCIENCE  
L'ORÉAL  
FONDATION  
D'ENFANCE

Clichy, February 9<sup>th</sup>, 2010

Dear Professor,

Since its inception in 1998, the For Women in Science partnership expands each year. To date, the L'ORÉAL-UNESCO Awards have distinguished 62 eminent women scientists at the height of their career and the International Fellowships have supported 150 promising young women scientists to pursue doctoral and postdoctoral research projects. In recent years, a network of National and Regional Fellowship programs at the doctoral level, now in over 56 countries with new programs launching each year, has encouraged over 700 young women to continue their scientific research studies within their country of origin.

The 2009 L'ORÉAL-UNESCO Awards Jury was presided by Professor Ahmed Zewail, Nobel Prize in Chemistry 1999, in the presence of Professor Christian de Duve, Nobel Prize in Medicine 1974 and Founding President of the Awards. The Jury designated the following Laureates in Physical Sciences:

Professor Tebello NYOKONG (SOUTH AFRICA) for AFRICA AND ARAB STATES

Professor Akiko KOBAYASHI (JAPAN) for ASIA-PACIFIC

Professor Athene DONALD (UNITED KINGDOM) for EUROPE

Professor Beatriz BARBUY (BRAZIL) for LATIN AMERICA

Professor Eugenia KUMACHEVA (CANADA) for NORTH AMERICA

An historic moment for the Awards arrived last December when two of the 2009 Nobel Prizes in science were awarded to former Laureates of the L'OREAL-UNESCO Awards. Ada Yonath (Israel), Laureate in 2008, received the 2009 Nobel Prize in Chemistry, and Elizabeth Blackburn (USA), also Laureate in 2008, received the 2009 Nobel Prize in Medicine.

**We are pleased to launch the call for nominations for the 2011 L'ORÉAL-UNESCO Awards For Women in Science dedicated to the Physical Sciences.**

The five US\$100,000 Awards will be presented in March 2011 at UNESCO Headquarters in Paris to five women scientists who have made an outstanding contribution to scientific advancement.



L'ORÉAL  
FOUNDATION

## Guidelines and Procedure

### Background

The L'ORÉAL-UNESCO Awards are attributed each year to distinguish eminent women scientists at the height of their career.

The 2011 Awards will be given to 5 women scientist who have made a significant contribution in the Physical Sciences.

One Award is given per geographic region as follows:

- Africa / Arab States
- Asia (including Oceania and Pacific)
- Europe
- Latin America
- North America (Canada and USA)

Each Award is worth US\$ 100,000.

### Selection Criteria

The candidate must:

- be recognized for her personal scientific excellence
- be actively involved in scientific research
- be involved in a field of the Physical Sciences

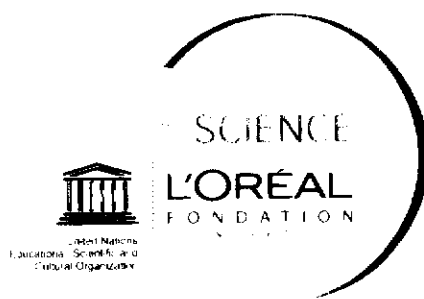
### Renominations

If you wish to renominate a candidate you presented in the past, simply provide a completed nomination form and any new publications.

Address all application files to:

**L'ORÉAL-UNESCO Awards**  
L'ORÉAL Corporate Foundation  
Jennifer CAMPBELL  
41 rue Martre - 92117 Clichy Cedex - France

The nomination file must be postmarked no later than June 15, 2010



## Call for Nominations 2011

### Nomination File Contents

#### Required documents in English, to be attached to the Nomination Form:

(no additional documents will be accepted)

- 1- Nomination Form, completed and signed by the nominator (please submit only one nomination per form)
- 2- Curriculum vitae of the candidate (2 pages maximum)
- 3- Copies of her 5 most important publications
- 4- A complete list of the candidate's main publications, in order of importance (please do not include the full publications)
- 5- Nomination Summary form

#### Optional Documentation:

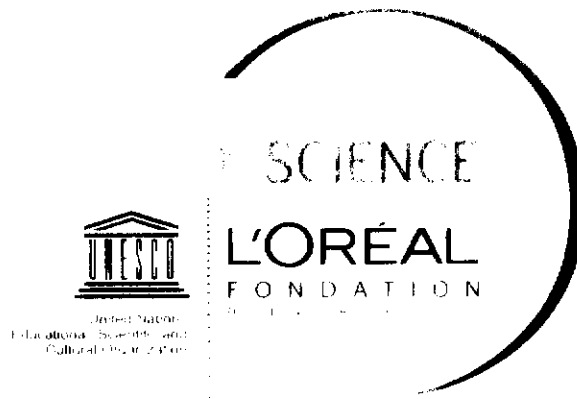
- 1- A maximum of 2 letters of recommendation from people at other institutions
- 2- A more elaborate description of the candidate's achievements (no more than 2 pages)

Address all nomination files to:

**L'ORÉAL-UNESCO Awards**  
L'ORÉAL Corporate Foundation  
Jennifer CAMPBELL  
4, rue Marthe - 92117 Clichy Cedex - France

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THE L'ORÉAL - UNESCO AWARDS  
1998 - 2009



# THE L'OREAL-UNESCO AWARDS 1998-2009

The world needs science. Science needs Women.

Launched in 1998 by L'OREAL 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 encouraging scientific vocations and recognizing the accomplishments of female researchers from every continent.

## A UNIQUE PARTNERSHIP FOR A PIONEERING PROGRAM

Consecrating excellence through the L'OREAL-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'OREAL 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, the L'OREAL-UNESCO Award Laureates have been recognized for careers of scientific excellence and 150 International fellows have been encouraged to pursue their scientific vocations. A program of National Fellowships, already in place in 43 countries, has up to now permitted over 500 young women to continue their research.



*"For L'OREAL 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, Fondation L'Oréal-UNESCO



*"The partnership with L'OREAL is an exemplary alliance, it not only recognizes outstanding women in all regions who have devoted their lives to scientific research but more broadly, contributes to finding answers to some of the world's most pressing global challenges, from health to the environment."*

**IRINA BOKOVA**

Director-General, UNESCO

# L'OREAL - UNESCO AWARDS

## CONSECrating EXCELLENCE

Created in 1998, the L'OREAL-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 of outstanding 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 Life Sciences, the other in the Physical Sciences, meet in alternating years to elect 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 2009 Awards, 17 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 2009 international jury in the Physical Sciences was a group of 16 prominent scientists, presided by **Ahmed Zewail**, Nobel Prize in Chemistry in 1999.

**Koichiro MATSUJIMA**, Director-General of UNESCO (2000-2009) was Honorary President of the juries.  
**Christian de DUVE**, Nobel Prize in Medicine in 1974, is Founding President of the Award.

*By presenting the Awards to each continent, it is possible to ensure that women scientists who have achieved outstanding results in their fields are being recognized and encouraged to continue their work in the service of humanity.*

**PR. CHRISTIAN DE DUVE**

*Founding President of the Award*

## INTERNATIONAL JURY 2009, PHYSICAL SCIENCES



From left to right, 1st row:

**Pr. Christian de DUVE**, Nobel Prize in Medicine 1974

Founding President, L'OREAL-UNESCO Awards, Institute of Cellular Pathology, Belgium

**Pr. Aihane RAGAI**, American University in Cairo, Egypt

**Pr. Betina KOHLER**, Federal University of Rio de Janeiro, Brazil

**Pr. Aalia KING**, Aston University, Birmingham, United Kingdom

**Pr. Monique MARTIN**, Ecole Normale Supérieure, France

**Pr. Ahmed ZEWAIL**, Nobel Prize in Chemistry 1999, President of the

2009 Awards Jury, California Institute of Technology, USA

2nd row: **Dr. Laurent GILBERT**, Umicore Advanced Research, Physical & Chemical Sciences, Orléans, France

**Pr. H. Eugene STANLEY**, Boston University, USA

**Pr. Chunli BAI**, Chinese Academy of Sciences, China

**Pr. Nikos HADJICHRISTIDIS**, University of Athens, Greece

**Pr. Bangani MAYOSI**, University of Cape Town, South Africa

**Pr. Majed CHERQUI**, Swiss Federal Institute of Technology, Switzerland

**Pr. Alberto ROBLEDQ**, National Autonomous University of Mexico, Mexico

**Pr. Mitchell WINNICK**, University of Toronto, Canada

**Pr. Masao DOI**, University of Tokyo, Japan

**Pr. Gabriel OGUNMOLA**, Lead City University, Nigeria

www.lorealparis.com/awards



# L'ORÉAL - UNESCO AWARDS 2009

## PHYSICAL SCIENCES



### LAUREATE FOR AFRICA & ARAB STATES

**Pr. TEMBLO NYOKONG**

Department of Chemistry  
Rhodes University, Grahamstown  
**SOUTH AFRICA**

*"For her work in harnessing  
light for cancer therapy and for  
environmental clean-up"*

Professor Temblo Nyokong is a pioneering chemist, who has spent her career studying photochemicals, which offer great promise as a new approach to cancer treatment. These chemical compounds, composed of a dye, for two years possess two interesting features of medical importance: when administered to patients, they begin to build up in a tumorous tissue, and they react very strongly to light. Professor Nyokong has worked on developing various varieties of photochemical-based drugs for use in cancer treatment known as photodynamic therapy. The drug was administered to a patient from three to 36 hours prior to surgery and built up in the cancerous tissue. When surgeons shine a red laser light on the diseased tissue, a chemical reaction occurs, resulting in the release of free oxygen radicals that destroy the tumour cells. This type of therapy does not cause the harmful side effects typically associated with chemotherapy, such as hair loss and nausea. The same properties that make photochemicals valuable for cancer therapy make them useful in applications such as chemical sensors, electrocatalysis, semi-conductors, and the removal of environmental pollutants. Another of Professor Nyokong's research projects involves designing sensors to detect viral hepatitis and pesticides in water. In addition to South Africa, a form of photodynamic therapy has been found to have a positive impact on selecting the fruits would make it possible to detect and remove ripening ethylene and prevent the disease. In addition to her many projects and research, Professor Nyokong is a devoted teacher who develops a deep love from her students. As a child, she dreamed of days at school with days spent in herding, bees, and today represents a very proud part of the role that she plays in Africa.



### LAUREATE FOR ASIA/PACIFIC

**Pr. AKIKO KOBAYASHI**

Department of Chemistry,  
College of Humanities and Sciences  
Nihon University, Tokyo  
**JAPAN**

*"For her work with organic metals  
which could open up new  
possibilities in electronic devices"*

For a long time, scientists did not believe that a single-component molecular metal could exist until Professor Akiko Kobayashi discovered one. Her achievement offers another example in the history of science of nature that allows seemingly unattainable, right up to the moment, to be achieved through scientific discovery. Professor Kobayashi's group developed a complex made of a single molecular component that maintains its metallic state at a very low temperature. The design and synthesis of a single-component molecular metal is remarkable in its own right. Professor Kobayashi's discovery has opened the field of solid-state chemistry and made scientists reevaluate what they thought they knew about molecular metals. At the same time, it opened the door for these metals to be used in a wide variety of industrial and biomedical applications.

Molecular metals are crucial structural components of light-emitting diodes, which form the basis for many flat-panel televisions and computer monitors. They are also used in solar panels and optical amplifiers. In addition, conductive polymers are present in a number of biological systems, including the inner ear, vision and eye; they turn an input in the form of sound or light into an electrical impulse in a nerve cell. The greater the number of molecular metals that are known and characterized, the greater the number of possible technological and biomedical applications they may result in. The single-component molecular metal is one of the most important discoveries in recent years of new materials with new physical properties. Professor Kobayashi has developed a whole new class of molecular metals whose full potential the world has yet to realize.



L'ORÉAL · UNESCO AWARDS 2008  
LIFE SCIENCES



**LAUREATE FOR AFRICA & ARAB STATES**

**Prof. LINADH AL-GAZALI**

*Professor in Clinical Genetics and Pediatrics - Genes  
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 Linadh Al-Gazali is a clinical geneticist and leading figure in genetic research in the Arab Region. For over 15 years she has worked to educate Middle Eastern populations about clinical genetics. She has founded several hospitals 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 region from an Arab country to gain membership in the International Classification of Birth Defects. The UAE population has a high prevalence of consanguineous marriages in which spouses share a common ancestor, resulting in a higher incidence of recessive genetic diseases. 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 Prof. Al-Gazali joined the UAE in 1990, there were no facilities for the diagnosis of genetic disorders or research facilities available in the country. Her laboratory and clinical services are supported by international and UAE laboratories. Her research focuses on the genetic epidemiology of inherited disorders in the UAE population, clinical genetics, molecular and epidemiological approaches to inherited genetic disease.



**LAUREATE FOR ASIA/PACIFIC**

**ASSOCIATE Prof. V. NARRY KIM**

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

*"For elucidating the function of a novel class of RNA  
molecules involved in gene regulation"*

**MOLECULAR BIOLOGY:** Dr. Narry Kim specializes in the biology of microRNAs, which play an important role as gene regulators. She has made major contributions to the understanding of microRNA biogenesis, and her studies have laid the groundwork for the development of RNA interference as a powerful tool for gene silencing in medical diagnosis. The miRNAs were first discovered in the nematode *C. elegans* and in human cells. They are pieces of RNA that function as a form of post-transcriptional gene silencing. In fact, they control several developmental processes, from cell fate to life, including the cell cycle, immune response and organ development, and eventually cell death. Much about the influence of miRNAs and the extent of its effect remains undiscovered. Dr. Narry Kim has demonstrated that microRNAs play key regulatory roles in fundamental cellular processes. Her research has elucidated how the expression of miRNA genes is controlled. In particular, she provided evidence that microRNA genes are transcribed by RNA polymerase II (RNAP II), an important enzyme in genetic transcription processes. Professor Kim currently works at Seoul National University.

# L'ORÉAL - UNESCO AWARDS 2007

## MATERIAL SCIENCES



### LAUREATE FOR AFRICA

**Pr. AMEENAH GURIB-FAKIM**

University of Rodrigues, Ile de la Reunion, Indian Ocean  
University of Abomey, Benin

**MAURITIUS**

*For her explanation  
of the synthesis of natural  
products from Mauritius  
and their medicinal applications*

### ORGANIC CHEMISTRY/PHYTOCHEMISTRY

Pr. Ameenah Gurib-Fakim is a chemist who has spent the last 20 years of her life dedicated to the study of the medicinal value of natural products. She has been a member of the Scientific Committee of the Association of African Universities since 1995 and has been a member of the Scientific Committee of the Association of African Universities since 1995. She has been a member of the Scientific Committee of the Association of African Universities since 1995 and has been a member of the Scientific Committee of the Association of African Universities since 1995. She has been a member of the Scientific Committee of the Association of African Universities since 1995 and has been a member of the Scientific Committee of the Association of African Universities since 1995.

She would like to continue her work in the field of natural products and medicinal chemistry. She is currently a member of the Scientific Committee of the Association of African Universities and is working on the synthesis of natural products. She is also a member of the Scientific Committee of the Association of African Universities and is working on the synthesis of natural products. She is also a member of the Scientific Committee of the Association of African Universities and is working on the synthesis of natural products.



### 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

Pr. Margaret Brimble is a chemist who has spent the last 20 years of her life dedicated to the study of the medicinal value of natural products. She has been a member of the Scientific Committee of the Association of African Universities since 1995 and has been a member of the Scientific Committee of the Association of African Universities since 1995. She has been a member of the Scientific Committee of the Association of African Universities since 1995 and has been a member of the Scientific Committee of the Association of African Universities since 1995.

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 develop potential drugs for pain, epilepsy, hypertension, stroke and stroke.

Margaret Brimble was introduced to the field of medicinal chemistry by her mentor, Professor John E. McMurry, during her undergraduate education. She is currently a member of the Scientific Committee of the Association of African Universities and is working on the synthesis of natural products.



**LAUREATE FOR EUROPE**

**Pr. Ada YONATH**

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

**ISRAEL**

**NORBEL PRIZE IN CHEMISTRY 2009**

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

**STRUCTURAL BIOLOGY:** Her research, spanning over two decades, is part of revealing the intricate functions of ribosomes based on the latest in X-ray crystallography. In addition, she widely considered the power of protein crystallography, she made crucial insights into novel innovative techniques to overcome the structural defects and introduced innovations that have become routine for a biology techniques today.

Ribosomes are responsible for the production of proteins in living cells. Being able to visualize their structure was a key pre-requisite to understanding protein biosynthesis. Her research applications in biotechnology, medicine and pharmacology, in particular, to increase antibiotics that interact with bacteria ribosomes and the development of new antibacterial agents.

When Ada Yonath first joined the laboratory, the international scientific community did not believe that ribosomes could be crystallized, and the structure determined. In 1981, she founded the first laboratory for protein crystallography and in 1984 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 the complexes was determined.



**LAUREATE FOR LATIN AMERICA**

**Pr. Ana BELÉN ELGOYMEN**

*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 Elgoymen studies the cellular mechanisms that regulate hearing, she has been known for having identified and characterized the specialized hair cells in the inner ear that are critical for hearing. Her findings, which enable us to hear, are attributed to her pioneering work in hair cell inner ear organogenesis by technical and

her pioneering approach to genetic studies in which she couples molecular biology techniques to the study of inner ear development. Her specialized inner ear receptors are able to sense and to develop potential therapeutic approaches to disorders of the inner ear, which have greatly expanded scientific understanding of the role of the cochlear amplifying proteins involved in hearing.

In her field of research, she states that Professor Elgoymen has been awarded several grants from the National Science Foundation to adjust the sounds perceived by the ear. This research will help to improve various conditions and her research has been able to help deaf people. From hearing incoming sound intensity is also able to the outer ear, which can also reduce noise. In addition, Professor Elgoymen has contributed to establishing genetic diagnostic criteria for hearing impairment. She is a member of the Emotus Research Institute.



**LAUREATE FOR NORTH AMERICA**

**Pr. ELIZABETH BLACKBURN**

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

**USA**

**NORBEL PRIZE IN MEDICINE 2009**

*"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 scientific 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 first 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 opening 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 2002. She was named one of Time magazine's 100 Most Influential People in the World.



# L'ORÉAL - UNESCO AWARDS 2006

## LIFE SCIENCES



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

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

**HUMAN GENETICS** Pr. Nabha Bouhamed CHAABOUNI has devoted her work to helping Tunisian families affected by genetic diseases in Tunisia and to providing them with medical genetic counselling and clinical diagnosis. During the last 20 years, she has been the Director General of the Unit of hereditary diseases within the genetic laboratory of the university and the principal investigator of the research. This was to be a defining experience. The scientific basis of the unit is the clinical diagnosis of hereditary diseases through the study of the prevalence and genetic disorders. Nabha Bouhamed Chaabouni has worked for years to set up the infrastructure necessary for the genetic laboratory. Her main research projects are the diagnosis of hereditary diseases, the development of the genetic laboratory equipment to ensure accurate diagnosis of DNA mutations. A setting was created for the first time in Tunisia for over 144 Tunisian medical genetic laboratories.

Professor Bouhamed CHAABOUNI has contributed to medical genetic research by defining the molecular basis of genetic disorders in families and gathering information on the genetic characteristics of the Tunisian population through the study of DNA polymorphisms. She has been active in a number of international congresses, conferences and symposia, including UNESCO's universal dialogue on the human genome and the human body.



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

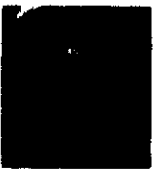
*For her studies on the evolution  
of mammalian genomes*

**MAMMALIAN GENOMICS** Professor Jennifer Graves has made fundamental contributions to the structure and organization of the mammalian genome. She has made major contributions to our understanding of the genome organization of the placental and marsupial mammals. She has led the first studies of the impact of the mammalian genome on the evolution of key regulatory pathways in genetic evolution as well as the impact of the environment on the development of genes. She has also been instrumental in the development of the first type of mammalian genome.

Based on her work on the Australian Marsupial genome, she has been instrumental in the development of the first mammalian genome. She has been instrumental in the development of the first mammalian genome. She has been instrumental in the development of the first mammalian genome.

She has been instrumental in the development of the first mammalian genome. She has been instrumental in the development of the first mammalian genome. She has been instrumental in the development of the first mammalian genome.

Professor GRAVES has received numerous awards and honours for her contributions to science and her efforts in promoting and advocating 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 has opened a completely new field of emerging research, that of molecular genetics. She has since made numerous contributions to the field and is particularly known for her work on the molecular genetics of neurological disease, such as Alzheimer's and Charcot-Marie-Tooth disease.

An exceptionally prolific researcher, Dr. 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 the 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 to persuade decision makers to the importance of allocating more resources for research into disease, such as Alzheimer's, and of providing appropriate care and support for patients and their families. She has argued that patients are at the centre of her research efforts as a way to help patients and caregivers in Europe and the USA. She has received a number of scientific awards for her research.



### LAUREATE FOR LATIN AMERICA

**PR. ESTHER OROZCO**

*Esther Orozco is a professor at the Institute of Chemistry, National Autonomous University of Mexico, Mexico City, Mexico.*

MEXICO

*For her discovery*

*of the mechanism by which*

*antibodies recognize their*

*antigen targets*

### MOLECULAR PATHOLOGY

The mechanism by which antibodies recognize their antigen targets is a complex process involving many factors. One of these factors is the positive selection of the antibody repertoire. This process involves the elimination of self-reactive antibodies and the selection of non-self-reactive antibodies.

Professor Orozco's research focuses on the molecular mechanisms of the positive selection of the antibody repertoire. She has discovered that the selection of non-self-reactive antibodies is controlled by the interaction of the antibody repertoire with the self-antigen repertoire. This process involves the elimination of self-reactive antibodies and the selection of non-self-reactive antibodies.

Dr. Orozco's research has been supported by the National Science Foundation, the National Institutes of Health, and the National Council of Science and Technology of Mexico.



### LAUREATE FOR NORTH AMERICA

**PR. PAMELA BJORKMAN**

*Max Delbrück Professor of Molecular and Integrative Biology, Howard Hughes Medical Institute, California Institute of Technology, Pasadena, California, USA.*

USA

*For her discovery*

*of how the immune system*

*recognizes targets*

### MOLECULAR BIOLOGY/IMMUNOLOGY

The immune system is a complex system that recognizes and responds to foreign antigens. The immune system is composed of many different cells and molecules that work together to protect the body from infection.

Professor Bjorkman's research focuses on the molecular mechanisms of the immune system. She has discovered that the immune system recognizes targets by using a complex system of receptors and signaling molecules. This process involves the recognition of antigens by T lymphocytes. Once they receive this signal, they attack the infected cell, taking the structure of the T protein of Pamela BJORKMAN to understand what goes wrong during an autoimmune disease. T lymphocytes mistakenly recognize a peptide produced in 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.

## LOREAL 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 1981. In 1995, with Edward B. Lewis, she received the Albert-Ludwigs-Medical Research Award, considered one of only 10 in the Nobel Prize.



### PR. CHRISTIANE NÜSSEIN-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, Loreal and UNESCO awarded a special tribute to Christiane NÜSSEIN-VOLHARD, amounting to 1,100,000 dollars to the Christiane Nüsslein-Volhard Foundation.

Christiane Nüsslein-Volhard, a developmental geneticist, created the Foundation in 2003 for women to face the challenge of balancing family life and research. The foundation awards fellowships starting in 2005 to women pursuing a PhD in the experimental sciences. It also provides support for their research and advancement. Her work has been recognized by the French Academy of Sciences, the German Academy of Sciences and the Royal Society, among others. She is a member of the French Academy of Sciences and the Royal Society, and a recipient of the Nobel Prize.



# 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 experimental 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 optical physics as a scientific discipline in Tunisia and Africa, making a valuable contribution to scientific culture and its application in many areas, from the environment to biotechnology. After earning a PhD in Atomic Spectroscopy from the University of Paris, she would have remained in Europe but decided to return to Tunisia where there were a few scientific research facilities. She began working to study the natural research concerning molecular vibrations.

At the interface between physical and chemical atomic and molecular physics, represent an essential field especially for developing countries. One of Professor BEN LAKHDAR's most important achievements is that she opened research to meet national needs in Tunisia. She has developed advanced theoretical and numerical experimental spectroscopy methods to study the influence of pollutants on the synthesis and metal, on the quality of air, water and plants. Her studies are important starting points for potential applications in a wide range of fields from spectroscopy to agriculture, medicine, pharmacology, and the chemical industry.

Professor BEN LAKHDAR has been a member of the Scientific Council of the Institut National de Recherches Scientifiques and president of the Tunisian National Society for the Advancement of Science. She has also participated in the development of scientific and professional interactions with international institutions and universities. She was elected to the Tunisian Academy of Sciences.



### LAUREATE FOR ASIA/PACIFIC

**Pr. Fumiko YONEZAWA**

*Professor Emerita of Physics*

*Department of Physics, Kyoto University, Kyoto*

**JAPAN**

*"For her pioneering theory  
of the computer simulation of amorphous  
semiconductors and post-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 model for the electronic structure of disordered systems. This model helped explain the existence of a band gap, but as the theoretical model was not yet complete, she spent several years in physics and chemistry. In 1968, she was invited to study abroad, contributing to the field independently. She began to gradually develop theoretical models and potential applications for the study of the physical properties of disordered systems. Her research focused on the physical properties of amorphous semiconductors.

From 1978 to 1985, she worked to develop theoretical models for amorphous materials by computer simulation and complex simulation. Her research has helped to explain the physical and chemical properties of amorphous semiconductors with an eye to technological applications. She has completed monumental work in the field of disordered systems. In the 1990s, she and her graduate students earned international recognition for their discovery of a completely new mechanism of metal-semiconductor transition.

In 1995, she was elected to the Scientific Council of the Physical Society of Japan. A member of the Japanese Society of Physicists, she was elected



#### 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 importance 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 and skin, 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 liquid wetting at the fluid 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 marked the unusual wetting behavior of foam emulsions. Bringing important insights to the understanding of ultra-low surface tension, of particular interest to the petroleum industry for oil recovery. Her present work focuses on air/oil, oil/water and water/oil interfaces, in relation to foams and emulsion properties where she has obtained novel experimental observations and developed theories to interpret them. Professor LANGEVIN has played a key role in developing scientific networks and consortia and continues to be a scientific leader as well as a scientist.



#### LAUREATE FOR LATIN AMERICA

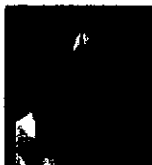
**Pr. BEIZA KOELLER**

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 Beiza KOELLER 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, mentor, and thesis supervisor who has inspired the younger generation of Brazilian condensed matter physicists.

Beiza KOELLER'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 KOELLER 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 (CCNY), 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 solid state 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 "distinguished 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 AAUW 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.

Dr THOMSON's expertise in the field of GM 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 insight 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.

Dr 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.

Dr 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,

Dr 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, Institut Pasteur  
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 leader in the field of hereditary deafness, she was the first to identify many affected families worldwide. PETIT isolated the gene underlying the form of deafness and demonstrated that even though two different genes may cause congenital deafness, a single gene is responsible for about half of the cases in France. As a result, her development of genetic counselling for congenital deafness is now known to be of genetic origin in 80% of cases. Moreover, genetic counselling is now available to families of deaf children that is based thanks to the development of molecular diagnosis. Christine PETIT was the first to identify the gene responsible for the deafness in the underlying the Fabry's syndrome type 2, a severe disorder of hearing and blindness. She also identified the gene responsible for the deafness in the new hereditary notum disease causing a loss of hearing.

PETIT is the head of the genetics of Sensory Defects Unit, Unité of Institut Pasteur and holds the chairs of Genetics and Cellular Physiology at the Collège de France in Paris. In addition to several scientific awards, in 1996 she was nominated as a member of the Académie de Médecine, one of the highest awards of the French state. In the same year, she was elected to the Académie Française and in 2004 she received the "Recherche & Médecine" prize from the Institut des Sciences de la Santé.



**LAUREATE FOR LATIN AMERICA**

**PROFESSOR LUCIA MENDONÇA PREVIAO**  
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 PREVIAO'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 10 to 15 million people on the continent. This infection can lead 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.

MENDONÇA PREVIAO 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.

MENDONÇA PREVIAO 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. Prof MARRACK is also recognized for her discovery of "super-antigens," toxins produced by certain microorganisms 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



**LAUREATE FOR AFRICA**

**Dr 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 material.

Thanks to the expertise she acquired regarding crystal growth, Dr 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**

**Dr Fang-Hua LI**  
Institute of Physics,  
Chinese Academy of Sciences, Beijing  
CHINA

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

**ELECTRON MICROSCOPY** Dr 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**

**Dr AYŞE 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 light fracturing, liquid crystals, and plasticity, fractal-like 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. Ayşe 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, Dr ERZAN has most recently been involved in investigating mathematical models of genetic evolution.



**LAUREATE FOR LATIN AMERICA**

**Dr MARIANA WEISSMANN**

*Argentine National Research Council,  
Buenos Aires  
ARGENTINA*

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

**COMPUTATIONAL CONDENSED MATTER PHYSICS** Dr 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 coating 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

**Dr 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 (Down syndrome) have constituted a significant database for fundamental genetic researchers.



### LAUREATE FOR ASIA/PACIFIC

**Dr Indra NATH**  
All India Institute of Medical Sciences,  
New Delhi  
INDIA

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

**IMMUNOLOGY** Indra NATH is a celebrity not only in India, but 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 leonmatous leprosy, its most serious form, Indra 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 2001, Dr 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

**Dr 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-Maria 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-Maria LÓPEZ-COLOMÉ has devoted herself to the study of molecular mechanisms underlying normal retinal function and the alteration of these processes implicated in serious diseases of the retina that due to deficient repair and/or an excess of 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 mammalian gene. The job 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.



**LOREAL TRIBUTE TO A LIFE ACHIEVEMENT**

**MARIANNE GRUNBERG-MANAGO**

*Eminent 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 OLADYI 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 thalassaemia 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 UNILCH 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 1962 she was jointly awarded the Nobel Prize for pioneering work on mammalian embryonic development. For 30 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 entire 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."*

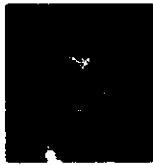
**MOLECULAR BIOLOGY** Tuneko OKAZAKI spent most of her career as a molecular biologist at Nagoya University, where she became the first female professor - a very rare example in Japan among women of her generation. Her main achievements are her work on DNA replication and chromosome segregation. She 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**

**Dr 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 Sherril Distinguished International Emory Alumni Award, a distinction from the American university where she completed her doctorate.



**LAUREATE FOR NORTH AMERICA**

**Dr 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.



**LOREAL TRIBUTE TO A LIFE ACHIEVEMENT**

**Dr THERESA 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 Theresa 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

**ESSENTIEL Pr G.O.L. OLAWUYI-TAYLOR**  
Ibadan University  
NIGERIA

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

**BIOCHEMISTRY** Pr Grace Oladunni 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 Myoung-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 Myoung 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 mucopolysaccharidosis.



### LAUREATE FOR EUROPE

**Pr PASCALE COZZART**  
Bacteria-Cell Interaction Unit, Institut Pasteur,  
Paris  
FRANCE

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

**BACTERIOLOGY** Pr Pascale COZZART 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 Católica 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.