



AGROPOLIS FONDATION

**LOUIS MALASSIS**

INTERNATIONAL SCIENTIFIC PRIZE

for agriculture and food



**Olam**

PRIZE FOR INNOVATION  
IN FOOD SECURITY

2017

The Agropolis Fondation Louis Malassis International Scientific Prize for Agriculture and Food was created in 2009 by Agropolis Fondation as a tribute to Prof. Louis Malassis, a French agronomist, agro-economist and ardent supporter of farmers' cause.

The Prize aims to recognize individuals for their exemplary and promising contribution to promoting innovation through research, development and/or capacity building in the North, South or in the Mediterranean, in order to improve food and agricultural systems sustainability as well as contribute to addressing food security and poverty reduction.

The previous editions of the Prize were given in 2010, 2012 and 2015.

The inaugural Olam Prize for Innovation in Food Security, given by leading agri-business firm Olam International to mark its 25<sup>th</sup> anniversary year, was awarded in conjunction with the Agropolis Fondation Malassis Prize in 2015.

*The Award Ceremony of the 2017 edition of the Prize was held during the 8<sup>th</sup> International Forum on Food and Nutrition in December 2017 in Milan, Italy.*

# Message from Agropolis Fondation



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Agropolis Fondation shares the vision, values and objectives upheld by the founder of Agropolis, Prof. Louis Malassis, notably in terms of promoting knowledge sharing and socially responsible agriculture through research, education and international cooperation.

This Prize was created as our way of paying tribute to all those who believe in the value of science in addressing some of the world's most pressing concerns. It is our way of recognizing the promising and exemplary contribution of men and women of science in the field of agriculture and food and in the service of society.



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**Thierry Blandinières,**

Agropolis Fondation Chairman of the Board

and **Pascal Kosuth,**

Agropolis Fondation Director

# Message from Olam International



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More so than any other sector, agriculture faces huge environmental and social challenges that are interlocked and complex. Agribusiness is responsible for 25% of the world's GHG emissions and accounts for 71% of all fresh water withdrawals. We need to increase food production by 70% on a calorific value basis and double it on a crop production basis by 2050 to feed a growing population, while using fewer resources to ensure the planet can sustain us. We recognize that the world cannot continue with the same agricultural systems as they are no longer fit for purpose. So, we have to re-imagine global agriculture. We are hopeful that the winners of the Olam Prize for Innovation in Food Security will contribute meaningfully to help the world to achieve this.

**Sunny Verghese,**

Co-Founder and Chief Executive Officer, Olam International Ltd



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# Louis Malassis

(1918-2007)

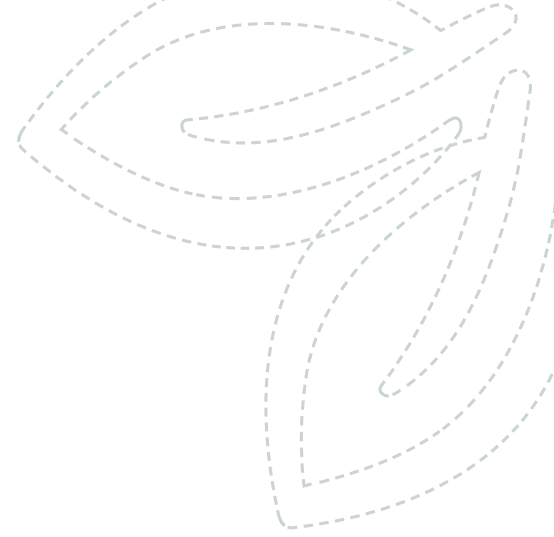
Born to a modest farming family in Brittany, France, in 1918, Louis Malassis remained faithful to agriculture throughout his lifetime.

He studied at the National School of Agriculture in Rennes where he obtained his PhD in Economics. He taught in various schools and learning institutions as a Professor of rural economy. He served as Director-General for Research and Education of the French Ministry of Agriculture as well as Director of the Mediterranean Agronomic Institute in Montpellier. He was also adviser to several Agriculture ministers.

Louis Malassis authored a number of publications including *L'épopée inachevée des paysans du monde*, a book narrating the continuing quest of the farmers of the world, as well as *Nourrir les hommes*, which talks about the food system and raises the question if humanity will win its fight against hunger.

In 1986, he founded Agropolis, an international campus based in Montpellier, which brings together research organizations and institutes for higher learning in agriculture. Today, this campus is home to one of the world's largest concentration of scientific skills and expertise in agriculture, food and environment.

# Prize Categories



**The Young Promising Scientist Prize** is given to a young scientist, or a group of young scientists, who has carried out original and promising work in the field covered by the Prize. The Awardee should be no more than 40 years old, hold a PhD degree and have at least five years of professional experience in the field covered by the Prize.

**The Distinguished Scientist Prize** is conferred to an outstanding scientist, or a group of scientists, who holds a PhD degree, with at least 15 years of professional experience and who has made significant contribution in the field covered by the Prize through his/her (or their collective) work.

**The Outstanding Career in Agricultural Development Prize** was created and awarded for the first time in 2015 in order to recognize a person whose career has been devoted to agricultural development in the last 20 years. He/she should still be professionally active in the field of research, innovation, capacity building, development or policy.

Winners are selected based on the following:

- Scientific quality of the candidate(s)' contribution;
- Impact of the contribution to sustainable development;
- Quality of partnerships developed and established, notably with the civil society.

*The winner in each category receives €20,000 and a plaque.*



# 2017 Young promising scientist awardee



**Dr. Elena Poverenov** sets for herself as a general challenge and research objective the development of safe, effective and sustainable approaches to enhance quality and safety of agricultural products after harvest and avoid food losses during their delivery, storage and processing.

About 30% of global postharvest losses (and up to 70% in developing countries) are due to physical and mechanical damage, physiological deterioration processes, temperature and humidity changes, damaging microorganisms and harmful insects.

“ We also continuously learn from farmers, from people involved in food production chain and specialists in agricultural and food science because scientific background together with understanding the real problems in these fields will lead to finding an effective solution. ”

Elena is convinced that reducing losses is the most appropriate option to overcome world food crisis. As such, her work at the Agricultural Research Organization (ARO) Volcani Center in Israel, explores natural approaches for prevention of food losses and develops smart “contact-

active” materials to avoid microbial contamination of food, using advanced approaches from material sciences and nanotechnology.

She has developed active edible coatings and biodegradable packages based on natural biopolymers that protect agricultural produce from physiological and microbial damage, thereby prolonging shelf life, and improving quality and appearance. She has also worked on packaging materials used in food industry that are able to prevent microbial damage and mold without releasing antimicrobial agents.

Reducing postharvest losses has been accomplished mainly through the use of chemical antibacterial agents, fungicides, pesticides and various synthetic preservatives. Elena believes that finding alternatives that are safe for human health and environment and commercially viable is a real imperative required for providing safe and secure food.



# 2017 Distinguished scientist awardee



© UC Davis

**Dr. Paul Gepts'** outstanding contribution to the understanding of processes underpinning domestication of the common bean have had a profound impact on basic crop research and on its application to crop improvement.

Since 1980s, his research and teaching are focused on studying the evolutionary factors that affect crop biodiversity, with particular emphasis on Phaseolus beans, including intrinsic plant factors such as gene flow and gene diversification, environmental correlations with crop biodiversity, and human effects on the maintenance and generation of diversity. This information is applied to breeding

programs to develop new varieties of beans for California and Eastern Africa.

Paul's focus on Phaseolus is due to the fact that these are an important part of the human diet, especially in developing countries, and provide many health benefits. Other crops of interest in his lab are peppers

(Capsicum), wild maize (teosinte), amaranth, and agaves. These provide a comparative dimension to studies of crop evolution because they encompass a wide range of reproductive systems, life histories, and human uses.

On the more applied level, he looks at the consequences of their findings for plant breeding. One of his main activities is leading the ABC-KT project (i.e., African Bean Consortium, funded by the Kirkhouse Trust), which seeks to develop a marker-assisted selection capability in East African bean breeding programs. Paul is a Distinguished Professor at the University of California-Davis where he is also spearheading its grain legume breeding program.

“ In most crops, diversity has decreased as a consequence of dissemination from the centers of agricultural origins and modern plant breeding. Yet, diverse agroecosystems and crops are crucial to enhance their productivity in the present environment but also to improve their resilience in the face of the current human-induced global climate change episode. ”



# 2017 Outstanding Career in Agricultural Development



© B. Agarwal

**Dr. Bina Agarwal's** work focuses on agriculture and the rural sector in developing countries.

In the last 35 years, she has researched several interrelated topics: agricultural modernization and food security; land rights and livelihoods; poverty and inequality; and environmental change.

Her work on women's land rights and on environmental governance has been globally recognized as pioneering and paradigm-shifting, opening up new intellectual and policy pathways. Her book *A Field of One's Own* demonstrated how gender equality in land and property could reduce poverty, raise productivity, and empower women.

“ The most important factor propelling my research is a deep interest in understanding the processes that underlie poverty and inequality, especially those predicated on gender, and in finding pathways to alleviate these deprivations and move towards sustainable livelihoods. ”

Her book *Gender and Green Governance* empirically demonstrates, on the basis of her primary survey in India and Nepal, that including a critical mass of women in village institutions that govern community forests can greatly improve forest management as well as conservation outcomes.

Bina is now researching group farming in Asia and Europe. She argues that the global debate on food security and ecological sustainability is polarized between those supporting small family farms and those favoring large commercial farms. She thinks that group farming could be an innovative third model, wherein farmers voluntarily pool their resources and share costs, risks and profits. In developing countries, most farmers are smallholders and increasingly women. They face severe production constraints which could be overcome with resource pooling and cooperation.

Bina plans to do more work on inequalities in land and property, by tapping new macro-data for further insights, and by collaborating with civil society to help implement the gender-equal inheritance law which she had worked to get amended in her country India.





# Previous Awardees



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## 2015 Young Promising Scientist Awardee

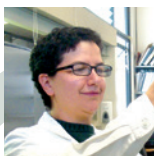
**Dr. Kazuki Saito** is a rice agronomist and agrophysiologist at Africa Rice Center who introduced improved indica-type and aus-type rice varieties in West Africa and identified ones that were superior to the more popular upland NERICA varieties.



© James Quilly

## 2012 Young Promising Scientist Awardee

**Dr. Matty Demont** is a value chain economist who has worked with the private sector and women consumers throughout Africa—through participatory approaches—in order to better understand public-private sector linkages in the region's rice value chain sector. Formerly with Africa Rice in Senegal, he is now based in the Philippines at the International Rice Research Institute (IRRI).



© G. Driegs

## 2010 Young Promising Scientist Awardee

**Dr. Silvia Restrepo** is a plant pathologist studying alternative methods of controlling major diseases attacking cassava and potato. She is an Assistant Professor at the University of Los Andes in Bogota, Colombia.



© Icipe

## 2015 Outstanding Career in Agricultural Development Awardee

**Dr. Zeyaur Khan** is an entomologist at the International Centre of Insect Physiology and Ecology (Icipe). He uncovered the chemical and ecological relationships at the core of push-pull technology which involves use of behavior-modifying stimuli to manipulate the distribution and abundance of stemborers and beneficial insects for management of stemborer pests.



© Cirad

## 2015 Distinguished Scientist Awardee

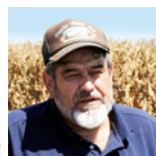
**Dr. Claire Lanaud** is a molecular geneticist at the French Agricultural Research Center for International Development (Cirad) who led an international effort to sequence the whole cocoa genome in 2010.



© Jim Sumbos

## 2012 Distinguished Scientist Awardee

**Dr. Pamela Ronald** has worked on improving rice resistance to diseases and tolerance to flooding, which are serious problems of rice crops in Asia and Africa. She is a Professor in the Department of Plant Pathology and the Genome Center at the University of California-Davis and is a 2012 Agropolis Fondation Fellow.



© CIMMYT

## 2010 Distinguished Scientist Awardee

**Dr. Ken Sayre's** work as an agronomist deals with highly efficient bed-planting technologies for both irrigated and rain-fed crop systems. He was the former Regional Agronomist for Asia of the International Maize and Wheat Improvement Center (CIMMYT).





# Olam Prize for Innovation in Food Security

As a global agri-business, Olam recognizes the acute need for rigorous scientific agricultural research as we seek to produce enough to feed a growing population with increasingly constrained natural resources. In 2015, the Olam Prize for Innovation in Food Security was launched in partnership with Agropolis Fondation to recognize an outstanding innovation for its potential impact on the availability, affordability, accessibility and adequacy of food. The Prize will support the innovation's further development and contribution to global food security, in support of the UN's Sustainable Development Goal #2: *End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.*

*The Olam Prize winner receives a US\$50,000 grant for further research.*



© Cornell University

## 2015 Winner

An agroecologically-based methodology of growing rice, called System of Rice Intensification (SRI), enhances crop yields and factor productivity and also resilience to the adverse effects of climate change. Dr. Norman Uphoff, Professor of Government and International Agriculture at Cornell University, actively promotes it to contribute to alleviating the global food crisis.



# 2017 Olam Prize for innovation in food security

*Promoting the use of Durum varieties adapted to the Senegal Basin*



© F. Bassi

“ *This top-yielding variety of durum wheat can withstand 40 degree heat along the savannah of the Senegal Basin. With short growing window, it can be grown in the region during the rice fallow season. This unlocks the potential to produce 600,000 tons of new food in West Africa, as well as a promising new trading business of over \$200 million between North Africa and the Sahel to favor better income for smallholder farmers.* ”

The Senegal River provides irrigation water to over 200,000 ha of rice cultivation along its Basin (Mali, Mauritania, and Senegal). Rice is the predominant crop, typically grown under flood irrigation, in two consecutive seasons. During the winter months (December to March) part of these lands are left as fallow for feeding cows, goats.... Furthermore, the income from rice cultivation is not sufficient to raise smallholders out of poverty. Mauritania and Senegal are both consumers of cuscus and other semolina products, which are imported.

Through the international breeding and agronomy program of the International Center for Agricultural Research in the Dry Areas (ICARDA) for the improvement of durum wheat funded by the Swedish Research Council, super-early and heat tolerant durum wheat cultivars have been selected, yielding over 2-3 tons per hectare of a good quality in just 90 days under the Senegal River environment.

Together with his team at ICARDA, Dr. Filippo Maria Bassi, a breeder, developed top yielding durum wheat cultivars that can withstand the tropical winter temperatures along the Senegal River, and deliver good processing quality grains in just 3 months. Multiplication of seeds of these cultivars is underway and their delivery to farmers is expected to start in 2018. This first step requires the delivery of a sufficient amount of seeds to pioneer farmers.

Filippo is working with a team involving agronomists and breeders from Mauritania and Senegal, and scientists of the Swedish University of Agriculture. The innovation holds great potential to increase farmers' income in order to diversify their diets and create a durum wheat value chain for a very poor area of Africa.



# 2017 Jury

Jury members are appointed by the Chairman of the Board of Agropolis Fondation. The independent jury is composed of internationally recognized individuals acclaimed for their contribution to agriculture and food as well as knowledge of issues confronting the sector. The jury deliberates and selects the winner of each category. Its decision is final and irrevocable.



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**1st row:** **Francoise Vedele**, Special Advisor to the Director-General of the French Institute for Agricultural Research (INRA) and Agropolis Fondation Science Council member; **Claire Lanaud**, Molecular geneticist, Cirad and 2015 Louis Malassis Prize Distinguished Scientist winner; **Marta Antonelli**, Research Programme Manager, Barilla Center for Food and Nutrition Foundation.

**2nd row:** **Berhanu Abegaz**, Executive Director, African Academy of Sciences (AAS); **Pascal Kosuth**, Director, Agropolis Fondation; **Supramaniam Ramasamy**, President, Global Head of Plantation, Olam International; **André Charrier**, Retired professor, Montpellier SupAgro, and member of the French Academy of Agriculture; **Guido Gryseels** (Chair, 2017 Prize Jury), Director-General, Royal Museum for Central Africa.



# Olam International

Established in 1989, Olam International is a leading agri-business operating from seed to shelf, supplying food and industrial raw materials to 22,900 customers worldwide. Listed in Singapore, Olam started life over 25 years ago as a cashew trader, sourcing raw nuts from the farm gate in Nigeria and trading into India. Olam has grown into a team of nearly 70,000 people across 70 countries with leadership positions in several of its 18 platforms, including cocoa, coffee, cashew, rice and cotton.

Above all, Olam is committed to growing responsibly and believes that it is only by doing business in a sustainable way that long-term value for all stakeholders can be delivered.

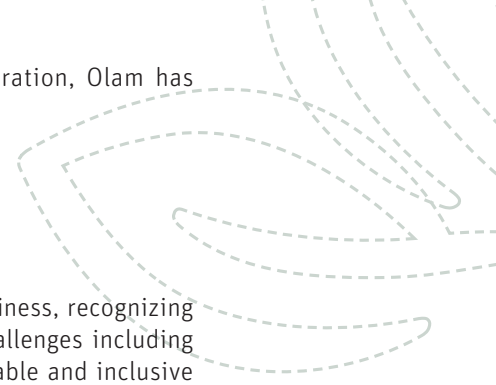
© Olam International



To help address some of the global challenges facing the next generation, Olam has launched four initiatives in celebration of its Silver Jubilee:

- The Olam Prize for Innovation in Food Security
- The Olam Scholarship Program
- The Olam Foundation
- The Building Sustainable Futures Forum

These will help Olam look beyond the commercial framework of its business, recognizing the role the private sector has to play in helping to address global challenges including food, water and energy security, the impact of climate change, sustainable and inclusive growth, and good governance.



# Agropolis Fondat

**Agropolis Fondation's mission is to support and promote high-level research and higher education in agricultural sciences, with a focus on sustainability in temperate, tropical and Mediterranean regions.**

As a foundation for scientific cooperation, it supports cutting-edge science that is responsive to critical development challenges through an interdisciplinary and integrated approach to plant research. Working with about 420 partners overseas, its network of 41 research units in and around Montpellier specializes in plant research at various levels- from its genes to its environments to its final uses and societal issues.

Its areas of interest are the following:

- Genetics and genomics, plant breeding, ecophysiology
- Plant pathology, integrated crop protection, population ecology
- Agro-ecosystems, resource management
- Food processing and transformation
- Social management of innovation; agriculture–society interaction

From its base in Montpellier, at the heart of Agropolis International, the Foundation is able to draw on an extraordinary pool of international expertise and talent.



■ Established in 2007 ■ Supports a network of 41 research units involving more than 1,500 scientists, 600 PhD students and postdocs, 900 technical staff ■ Charter members are France's major research and higher education institutions for development-oriented research and higher education in agriculture, food and the environment – Cirad, INRA, IRD and Montpellier SupAgro ■ Launches Calls for Proposals annually since inception in 2007 ■ €41 M total funding commitment since 2007 ■ 430 projects supported involving 420 partner institutions from about 90 countries (55% partners from the South and the Mediterranean) ■ More than 230 Agropolis Fondation Fellows from 40 countries (70% of the Fellows from the South and the Mediterranean) ■ ISO 9001 accredited for its whole range of actions.



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## CHARTER MEMBERS

Agropolis Fondation's charter members are four of France's top institutions for development-oriented research and higher education in agriculture, food and the environment.



A public research institute specializing in agriculture and sustainable development in tropical and subtropical countries. Cirad has research scientists working in over 50 countries on five continents.

**[www.cirad.fr](http://www.cirad.fr)**



A public research institute that carries out mission-oriented research for better food and nutrition, preservation of the environment and competitive, sustainable agricultural practices.

**[www.inra.fr](http://www.inra.fr)**



A public research and technology institute specialized in the relationship between humans and the environment in developing countries.

**[www.ird.fr](http://www.ird.fr)**



An international centre for higher education in agriculture, specialized in Mediterranean and tropical countries, situated in the heart of a top level teaching and research complex. Trains future engineers, postgraduates and offers continuing education for professionals.

**[www.supagro.fr](http://www.supagro.fr)**





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## Olam

TRANSCENDING BOUNDARIES

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Design graphique : COMME UN SOLEIL

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