



United Nations
Office for South-South Cooperation



South-South in Action

Human Welfare and Peace through
Development of Science and Technology

The Mustafa^(pbuh) Science and
Technology Foundation

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South-South in Action

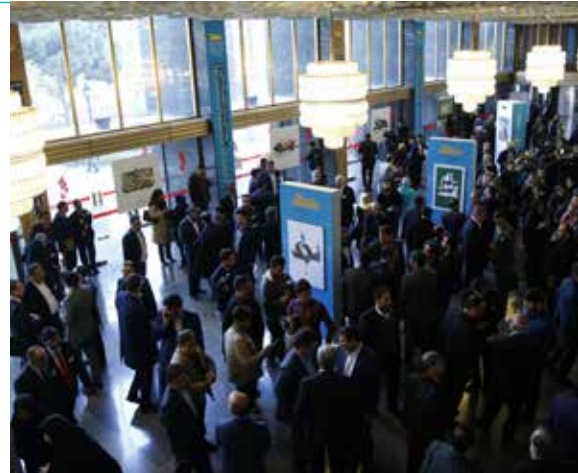
**Human Welfare and Peace through
Development of Science and Technology**

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Acknowledgements

In the name of God, the Beneficent, the Merciful.

Praise be to God, Lord of the Worlds.

How poor is a man when he finds himself incapable of delivering a worthy appreciation to Almighty GOD. To use Sa'di's words:

"Laudation to the GOD of majesty and glory. Obedience to Him is a cause of approach and gratitude in increase of benefits. Every inhalation of the breath prolongs life and every expiration of it gladdens our nature. Wherefore every breath confers two benefits and for every benefit gratitude is due.

Whose hand and tongue is capable

To fulfill the obligations of thanks to Him?"

We fall prostrate before God, the Almighty, to pray for our great achievement of appreciation of top scientists; the invaluable assets to humanity.

Language is helpless to express our appreciation to all individuals and institutions which contributed financially and in-kind to the progress of the mission of the Mustafa(pbuh) Science and Technology Foundation (MSTF) in order to prepare the groundwork for the development of science and technology for the welfare of human beings.

Words cannot express how deeply we owe a debt of gratitude to each and every person in the MSTF and the

sister institutions globally who made the journey of the MSTF with us and helped us finalize this publication as a successful benchmark at the international level.

We would like to take this opportunity to record our sincere indebtedness to UNOSSC, particularly Mr. Shahid Husain, Mr. Mehdi Mirafzal, and Mr. Michael Stewart, which provided the opportunity to share the great success story of the MSTF for the development of science and technology with other States in the international arena.

We convey our heartfelt thanks to all scientists, technologists, scholars, students and all those who look for scientific solutions to many of the world's problems. People who offered us the opportunity to put forward a solution for further collaborations internationally.

Last but not least, we convey our unrivaled appreciation to those who initiated the job and are not accompanying us in the completion phases.

This job embodies the help, support, encouragement, cooperation, and advice of a large number of people whose names might be here or not. The book is the fruit of sustained efforts made by many colleagues, including Hossain Hossaini Moghaddam and Gholam Hossein Halvaei, and also Mr. Mahdi Safarinia, CEO of the MSTF who personally supervised the work. Every single person who directly or indirectly contributed towards this great initiative is appreciated.

Preface

Laying emphasis on the development of science and technology throughout the world by adopting a non-profit approach and maintaining full independence, the Mustafa^(pbuh) Science and Technology Foundation (MSTF) has sought to celebrate the scientists of the Islamic world and appreciate their endeavours and, at the same time, train future scientists. Through concerted efforts the Foundation develops cooperation, synergy, and convergence in the realm of modern science and new technologies among Islamic nations and other, and also puts effort into portraying distinguished figures in science and technology as role models.

The Foundation is committed to improving general welfare worldwide by helping people to benefit from values such as human dignity and stewardship, supporting the development of science and technology, education, uncovering the truth, and shouldering social responsibilities. The MSTF identifies the fulfilment of this momentous task with the development of interconnected circles of society. It is committed to the improvement of the welfare, security, and health of society in “the breathing cycle of science and technology” taking the form of “the path of life in science

and technology”. Hence, as it seeks to raise the scientific and technological status of world’s scientists, and build a common scientific consensus on technological dynamism, benefiting human society through scientific accomplishments, and increasing the influence of scientists in international scientific interactions; the Foundation will endeavour to extend its promotional and supportive activities in 6 different areas:

1. Promoting public awareness in science and technology
2. Improving the educational and research atmosphere for students
3. Encouraging the scientific community to utilize scientific findings to solve social issues
4. Supporting the establishment of scientific networks throughout the world
5. Identifying distinguished scientists and benefiting from their potential to enhance the well-being of humanity
6. Developing scientific and technological cooperation with scientific centers at international level

Foreword

God will rise, to rank those of you who believe and who have been granted knowledge (The Holy Quran, Al-Mujādilah, and Verse 11)

Indeed, knowledge is undoubtedly a light in the pure hearts over whom only God's eternal presence rules, and it is a blessing for those who seek His guidance. People of knowledge must strive to help others enjoy the blissful light of their wisdom. Thus, surely being in pursuit of knowledge is an obligation which has long been placed on the shoulders of the followers of the true path. Not only shall they have enlightenment in this world, but will also be privileged to discern the truth of creation and to reach the abode of magnanimity. Whether this knowledge is in his hand or a seed in the heaven, the mighty thought of men must benefit from the wisdom and subjugate it to God's light of guidance so that they can walk on the straight path toward the bright horizon. The knowledge needs to be discovered while exploring the reality of the universe and illuminating the transcendental spirit of men toward the verities of creation. This shall grant men true peace of mind and provide them with serenity, health, and welfare in this world as well as prosperity in the Hereafter. The world has beheld the tremendous influence of great scholars of the past like, Ibn Battuta, Avicenna, Ibn al-Haytham, Al-Biruni, Badi al-Zaman al-Jazari, and philosophers of the days gone by like, Al-Farabi (Alpharabius), Ibn Rushd (Averroes), Muhammad ibn Zakariyyā al-Rāzī, and al-Khwarizmi who ignited the torch of knowledge of science and placed it on a path that would bring men closer to God while discovering it as a powerful source of remedy from some of the difficult conditions of earth. These great men brought about measures for a better life for humanity through the promotion and development of such knowledge. The Mustafa(pbuh) Science and Technology Foundation (MSTF) plans to provide the fertile ground for such a grand mission to praise and appreciate the contemporary bright stars in the arena of science and to open the field for synergy among scientists worldwide.

The MSTF, which pursues the mission of supporting the development of science and technology, honors the exemplary characters in science and technology who "have dared to pursue the boundaries of knowledge

to promote social welfare" and "have admirably fulfilled their pivotal roles in society", and appreciates their efforts by awarding them the Mustafa(pbuh) International Prize as one of the symbols of merit and excellence in science and technology on the world stage. Not only does this further the development of science and technology in the world, it also promotes reverence for divine religions and prophets as the founding fathers of the maintenance of human dignity, honor, and esteem and for fostering respect for human thoughts, beliefs, and values; because prophets had been raised to enforce and perfect the standards of morality. This, of course, can guarantee the advancement of modern cutting-edge sciences and technologies which promote security, health and prosperity for human beings, and provide mankind with peace of mind and mutual understanding.

The MSTF hopes to take firm and consistent steps to promote scientific and technological interactions in the South focusing on Islamic countries and to revive the role of the scientists in this regions in the development of science and technology. The MSTF hopes to witness the scientific leadership of the states of the South in achieving scientific facts and discoveries of the universe. This would not be attained unless scientists in these communities and benefactors all cooperated closely. Therefore, this Foundation warmly welcomes all stakeholders and enthusiasts with open arms.



A handwritten signature in Arabic script, written in black ink. The signature is stylized and appears to be 'Mahdi Safarinia'.

Mahdi Safarinia

CEO of Mustafa(pbuh) Science and Technology Foundation (MSTF)

Foreword

As-salāmu ‘alaykum.

Launched in 2016, South-South in Action (SSiA) is one of the flagship reports of the United Nations Office for South-South Cooperation (UNOSSC). It provides a space for our partners – be they United Nations Member States, United Nations entities, Intergovernmental Organizations (IGOs), or other stakeholders – to promote and share their successful home-grown solutions to some commonly experienced challenges.

This is the first edition of SSiA in which we have partnered with a Foundation. It was always our intention that these reports would showcase the important work being undertaken by all types of development partners.

It is noteworthy that the Mustafa Science and Technology Foundation (MSTF) is working across the Islamic world. There are an estimated 1.8 billion Muslims globally – living in all countries of the world. Importantly, all Muslim-majority countries and territories are from the global South. This is a vast population which is already engaged in the South-South transfer of contextually appropriate solutions to their development challenges. As this publication demonstrates, these exchanges are not only happening at the level of governments, but increasingly also through other actors.

UNOSSC is particularly glad that this edition focuses on science, technology and innovation (STI). The power of STI for development is a key driver of poverty alleviation and an essential component for achieving the Sustainable Development Goals. It was very encouraging to acknowledge the MSTF building platforms to facilitate cross-country learning and sharing between STI leaders.

To fully leverage their power, it is essential that young people are encouraged to develop skills and interests in STI. The work of the MSTF in supporting students at both school and college levels is thus vitally important – the Foundation is laying the groundwork for developing the science leaders of tomorrow.

There are many connections between what the MSTF and we in UNOSSC are doing, from supporting youth to supporting South-South exchanges to facilitating policy dialogue and development. I see this publication as the first step in an ongoing partnership with the MSTF and look forward to further engagement in the future.



A handwritten signature in black ink, consisting of stylized, cursive letters that appear to read 'J. Chediek'.

Jorge Chediek

Envoy of the Secretary-General
on South-South Cooperation
and Director, United Nations Office
for South-South Cooperation

Introduction

Science, technology, and innovation (STI) play a significant role in enhancing human well-being, and thereby creating prosperity. They facilitate day-to-day activities such as commuting and travel; tasks assigned to machinery; fast and remote communication; healthcare, prevention and treatment of diseases. As a result, a number of institutions have been established throughout the world to develop science and technology. However, honouring the path finders and pioneers of science and technology, which is one of the most important ways of showcasing the innovative role of science and technology, faces challenges. These include the limited contribution of the countries of the global South to such awards, a state of affairs which has its roots in either being distant politically or geographically from today's decision-making centres or a lack of plans to strengthen scientific foundations in these countries.

The Mustafa^(pbuh) Prize was created to address some of these challenges. The MSTF biennially awards the prize to the top researchers and scientists in the Islamic world and its diaspora in areas of science and technology such as Life and Medical Science and Technology, Nanoscience and Nanotechnology, Information and Communication Science and Technology and all other areas of science and technology. Nominees for the Mustafa^(pbuh) Prize are scholars of the Islamic world who are either citizens of member States of the Organization of Islamic Cooperation (OIC) or their diaspora all over the world. Key projects are assessed in specialized scientific groups under the Mustafa^(pbuh) Prize scientific committee, and shortlisted projects are finally examined by high-profile international juries. The Foundation tries to help scientists overcome obstacles in the path of scientific and technological progress through supporting scientific events, forming scientific cooperation, and awarding grants to researchers and scholars.

Fifty-five of the 57 OIC member States are countries of the global South. Through working to develop cooperation between these countries, the MSTF has done much to expand South-South cooperation. Moreover, tripartite cooperation between OIC countries and countries of the North, can also be an effective step towards harnessing the support of the North in promoting cooperation in the South.

One of the peace-disruptive factors in human societies is the uneven or injudicious distribution of the world's wealth resources. If these resources are distributed fairly, such disruptions will be significantly reduced. World peace could be established and secured through efforts to popularise science and technology so that all members of the world's societies have access to it.

The MSTF focuses on identifying and introducing prominent and pivotal figures in science and technology and aims to increase cooperation and synergy in science and technology with an emphasis on advanced technologies. Even before holding the first round of the Mustafa^(pbuh) Prize, the Foundation began discussing ways to achieve the objectives of the prize by creating cooperation and interaction among leading scientists and scholars. These discussions led to the establishment of a platform dubbed the "Science and Technology Exchange Program (STEP) among Muslim Countries". This programme offers opportunities to promote and publicise science and technology and build and expand a network of scientists in the Muslim world through holding international events. It also aims to lay the groundwork for enhancing scientific cooperation while popularising science and technology in and among OIC member States.

For university students, the MSTF has established the KANS (Knowledge Application and Notion for Society)

scientific competition, coordinated by the Mustafa^(pbuh) Science Center, which is the MSTF division responsible for university and school students. Scholars, university students, and professors under 45 years of age are encouraged to submit their innovative scientific and technological ideas and achievements in the form of a video presentation.

This event aims at finding the most useful scientific solutions to identify and tackle problems related to healthcare, energy, economics, water and the environment, and information and communication technology. The goals of this event include:

- using the competence and capacities of the expert community
- providing a repository of scientific works for future use
- enhancing motivation and creativity among young leaders

- establishing a platform to identify and exchange scientific and technological ideas
- engaging researchers in purposeful and sustainable interaction within cyberspace.

Among the MSTF's other activities at the school student level is the Noor competition. The competition is part of the activities undertaken by the Mustafa^(pbuh) Science Center which has been designed and implemented since 2015. The first round of this event was held in 2015 commemorating Ibn al-Haytham, the renowned and prominent scholar of the Islamic World, and the second round in 2016 in recognition of efforts made by Prof. Jackie Ying, one of the prominent scientists in the field of bio nanoscience and technology and the laureate of the Mustafa^(pbuh) Prize in 2015. Such tributes seek to strengthen student's confidence and aspirations for successful careers in science and technology.



Chapter I

THE MUSTAFA (PBUH) SCIENCE AND TECHNOLOGY FOUNDATION

THE MUSTAFA ^(PBUH) SCIENCE AND TECHNOLOGY FOUNDATION

Focusing on identifying and introducing scientists of eminence in the realm of science and technology, the Mustafa^{1 (pbuh)} Science and Technology Foundation (MSTF), was founded in 2012. It was recognised by the Organization of Islamic Cooperation's Standing Committee on Scientific and Technological Cooperation (COMSTECH) in 2015. The basic idea of establishing this Foundation emerged in the scientific community of the Islamic Republic of Iran where the lack of a prestigious academic award in the Islamic countries (which constitute a major part of the South) was keenly felt. Initially the MSTF's activities were primarily focused on bestowing this particular award, however, in subsequent years the Foundation's objectives have been expanded to target those actively involved in developmental activities utilising scientific knowledge and expertise. The Foundation has organized and implemented its subsequent activities with the active participation of relevant institutions of many Islamic countries.

There are more than 1400 scientific prizes globally which are designed to honour and support pioneers of science and technology. However, some of these face challenges including the limited contribution from countries of the global South. This is largely the result of these countries being either far away politically or geographically from decision-making centres, or a lack of strategies to strengthen the scientific foundations of academia and research institutions in these countries.

Addressing some of these challenges requires a focus on the establishment and building of such foundations, which would serve as the

centre-piece of STI development, challenging scientists, and paving the way for the development of international collaborative networks.

The objectives of the MSTF include:

- increasing the level of cooperation and synergy in science and technology with an emphasis on advanced technologies;
- creating an atmosphere of cooperation and interaction among world experts and scientists;
- introducing the Mustafa^(pbuh) Prize as a top science and technology award for competence and scientific excellence in the global arena;
- identifying and introducing leading-edge technologies;
- honouring the owners of scientific achievements and pioneers in cutting-edge technologies;
- enhancing the scientific and technological standing of the world's scientists, especially those from targeted communities; and
- adopting policies for collective action while developing a common scientific consensus in the world to promote welfare, security, and health in human societies, and countries of the South in particular.



¹ one of the epithets given to the Holy Prophet Muhammad^(pbuh) which means 'the Chosen One'.

Stages in the Development of the Mustafa^(pbuh) Prize

Planning and Formulating Standards

Granting awards, especially international awards, requires precise planning and formulation of standards within diverse mission areas including targeted practitioners, areas of activity, services and financing. The planning exercise involved two initial steps:

1. Studying and analysing other prestigious international science and technology awards;
2. Holding a series of policy-making and consultative meetings; these meetings were held at various levels, attended by intellectuals, experts, decision-makers, and event organizers.

Studying and Analysing Other Awards and Their Institutions

Following the adoption of the Statute, the next step was to pay visits to some prestigious international science and technology awards ceremonies. Taking into account the high-level of prestige and credibility criterion for such prizes, the Kavli Prize was selected as the first option.

In order to gain a better understanding of other prestigious science and technology awards, the MSTF conducted a study on 300 awards which resulted in the publication of an encyclopaedia of scientific awards (Fig. 1). This encyclopaedia contains general information about science and technology awards including: their year of establishment; the countries sponsoring them; amounts of financial awards; frequency (annual, biannual etc.); age requirements, if any; grantors; and areas of activity.



FIGURE 1- THE ENCYCLOPEDIA OF SCIENTIFIC AWARDS

In addition, the MSTF authorities paid visits to the institutions awarding the Abel, Heineken, Holberg, Brain, COMSTECH, and ISESCO Prizes as well as several other international awards in order to gain information on the processes of these awards, and to familiarize themselves with other organisational aspects of these award-granting institutions. The information obtained analysed and adapted to the needs of the MSTF target community.

The studies conducted, and the experiences gained from such awards, have been helpful. As a result, the MSTF further studied the world's six prestigious science and technology prizes with the aim of achieving a deeper understanding of policy-making, leadership, and the administrative processes. Another study was also carried out on two student-award-granting institutions to develop the Mustafa^(pbuh) Science Center.

The key points emerging from these studies can be summarised as:

- The necessity of independence for the award-granting institution to maintain autonomy and stability in its operations;
- The need to focus on various objectives, topics, and events including the award ceremonies;
- The importance of involving international connections and personalities in administering awards;
- The need to establish institutionalised relationships with scientific institutions;
- The need to maintain financial independence in developing policies and programmes;
- The need to maintain the confidentiality of

the selection process, the nominees' personal information, and the nominating individuals institutions.

- The need to pay attention to different stakeholders in the field of science and technology, including policymakers, industrialists, scientists, students, and the general public;
- The need to maintain regular purposive interaction with the laureates.

The MSTF breathing cycle of science and technology (Fig. 2) is the conceptual model for the activities developed in the MSTF for STI development in the global South. The cycle begins with financing the development



of science and technology through popular capital and endowment, and pursues its operations in subsequent sectors designed to attract a response to the needs of various constituencies including the general public, school and university students, prominent scientists, and entrepreneurs. Among the topics considered by planners whilst conducting various studies designing the life cycle was the type of institution which would support the Mustafa^(pbuh) Prize. Studies carried out on the prestigious institutions which award international prizes reveal that they have mostly chosen a “Foundation” structure due to their endowment-based resources and their social goals. Some examples include the Nobel Foundation, the Kavli Foundation, the Japan Foundation Awards, the Crawford Foundation, and the Wolf Foundation. In view of the fact that the MSTF activities were intended to be of international character, crossing geographical boundaries while recognizing national sovereignty, the structure of the Mustafa^(pbuh) Science and Technology Foundation was given as a suitable framework for administering the Mustafa^(pbuh) Prize activities.

- Acquainting talented students with the elite ecosystem;
- Directing talent towards forming scientific elite groups;

The Mustafa^(pbuh) Science Center works as the MSTF division for university and school students. This Center envisions educating the domestic future leaders of science and technology and offers this approach as its particular perspective. The Center undertakes its mission pursuing the following goals:

- Identifying talented students and building passion for science in them;
- Establishing an identity for the students’ talents and maintaining this distinctive quality;
- Helping students identify their objectives;

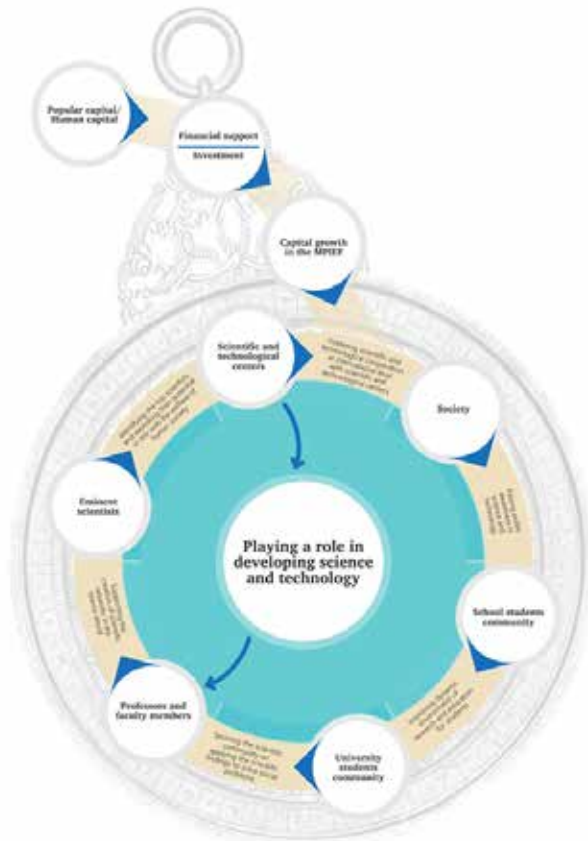


FIGURE 2- MSTF science and technology breathing cycle

Holding Policy-making and Consultative Meetings

The Policy-making Council is responsible for formulating and developing general policies, whereas the Scientific and Executive Committees play roles in implementing the adopted policies.

Policy-making Council

The council has individual and institutional members who are considered internationally influential personalities in science and technology. The members include the presidents of reputable universities including the University of Tehran, Sharif University of Technology, Universiti Putra Malaysia (UPM), Sultan Qaboos University (SQU), and the University of Karachi (UoK) as well as influential people in the science and technology policy-making area including the Chairman of COMSTECH, Iran Vice President for Science and Technology, Presidents of Iran Academy of Sciences and Academy of Medical Sciences, Islamic World Academy of Sciences (IAS), and Islamic Development Bank (IDB). The president of the Pardis Technology Park of Iran is also a member and the secretary of the policy-making council. The duties and missions of the Policy-making Council include the approval of the Council's bylaws, prioritizing the Prize's areas of science and technology, and defining the eligibility criteria for laureate selection.

Scientific Committee

The Scientific Committee, including the jury or the selection board, consists of four scientific and technological groups aligned with the four areas of the Prize.

Several meetings have been held since the formation of the Scientific Committee, resulting in the development of an instrument entitled "The Prize Selection Process Instrument". This instrument includes certain considerations for defining the framework for selecting the laureates,

works, jury members and consultants. These are as follows:

1. Defining the work
2. Evaluating the impact of the work
3. Distinctive feature of the owner of the work
4. Initial selection criteria in four scientific groups
5. Jury panel's selection criteria
6. Method of selection
7. Citizenship eligibility and effective interaction criteria

It is worth noting that the selected projects must be suitably innovative and noteworthy for their significance in advancing the frontiers of knowledge. The projects must have exerted significant influence on the promotion of public welfare and assistance for humanity, and ultimately the owner of the project must have a high scientific profile and must enjoy a well-known scientific and public reputation.

Executive Committee

Duties of the Executive Committee are divided into two main parts:

1. Covering the executive activities in various sectors including communication, science and international affairs during the two years before holding the Mustafa^(pbuh) Prize from the day of the Call-For-Prize to the day of Prize Award Ceremony.
2. Planning and taking necessary actions to implement the Mustafa^(pbuh) Prize programs influencing the impact this should have on the development of science and technology in the Islamic world.



Chapter II

THE MSTF PROGRAMMES FOR STI
DEVELOPMENT

THE MSTF PROGRAMMES FOR STI DEVELOPMENT

Whilst the initial and core objective of the MSTF is to honour prominent figures in science and technology from the Islamic world, other programs and events were drawn up in the consultative meetings. These are designed to promote scientific and technological development at different levels of the target audience and societies.

The MSTF, through its focus on identifying and introducing prominent and pivotal figures in science and technology through the Mustafa^(pbuh) Prize, aims to increase the level of cooperation and synergy in science and technology by placing emphasis on advanced technologies through physical and virtual channels.



The Mustafa^(pbuh) Prize

Following the launch of the Mustafa^(pbuh) Prize, various activities were carried out in order to hold this event at the level of international scientific standards.

Selection of the Mustafa^(pbuh) Prize Categories

As noted above, Awarding the Mustafa^(pbuh) Prize had priority over other planned events and therefore many of the frameworks for holding this event were set from the very early stages. The first step in awarding prizes is the approval of authorized areas; according to the studies conducted on world leading technologies and with regard to the target audience² needs assessment, three categories, namely “Life and Medical Science and Technology”, “Nanoscience and Nanotechnology”, and “Information and Communication Science and Technology” were selected whereas a fourth area, i.e. “All Areas of Science and Technology” was also added to these categories.

After the first round of the Mustafa^(pbuh) Prize, it was agreed that the fourth category should focus on two areas of Islamic economy and banking and cognitive science, and thus in the second round of the Mustafa^(pbuh) Prize, which was held in 2017, five individuals could potentially be introduced as laureates.

The criteria for identifying laureates was established with three prerequisites. The first prerequisite is that the Prize nominee must

have a high scientific profile and must enjoy a well-known scientific and public reputation. The second is that the nominee must have a notably innovative project recognized for its significance in advancing the frontiers of knowledge. The final is that the project must have exerted significant influence on the promotion of public welfare and assistance for humanity in the region and globally.

Holding the first round of the Mustafa^(pbuh) Prize

This ceremony was held at Tehran Vahdat Hall coinciding with the birth anniversary of the holy Prophet Muhammad^(pbuh) in 2015. The week in which the Prize event occurred was named as “The Mustafa^(pbuh) Prize Week” and included activities that:

- Introduced and honoured the laureates;
- Demonstrated aspects of international capabilities and cooperation in science innovation in the host country as an example of South-South cooperation;
- Established strong interaction and dynamic cooperation between laureates and various players in technology eco-systems, academic communities, professors, and students;
- Established contacts and sustainable interaction between the laureates and science and technology policy-making bodies, with the aim of efficiently utilizing the scientific and executive capacities of the laureates;

² In addition to the above mentioned points, a wide scope of domains while selecting them was also considered so as to cover a broad target audience and society.

- Showcased young scientists and offered opportunities to nurture their talents;

To achieve these activities, a set of plans and programs were set for the Mustafa^(pbuh) Prize laureates and guests. These included:

- Prize Award Ceremony to introduce and honour the laureates;
- Prize Laureates' Meeting in the Academy of Sciences;
- Specialized meetings at various universities;
- Visits to knowledge-based companies;
- General meeting at Red Crescent Peace Building (Hall);
- Annual Summit Meeting of the Islamic World Academy of Sciences (IAS) attended by the Mustafa^(pbuh) Prize Laureates
- Establishing strong interaction and dynamic cooperation between laureates and the STI community.
- Integration of young scientists with eminent professors to nurture their talents.

The Prize Award Ceremony was attended by more than 600 invited guests, including 60 scientists, researchers, and scholars from 25 countries. The President of the Islamic Development Bank (IDB) from Saudi Arabia, the President of the Islamic World Academy of Sciences (IAS) from Jordan, the chairman of COMSTECH, the President of ECO Science Foundation (ECOSF) from Pakistan, and the Director General of Research Center for Islamic History, Art and (IRCICA) from Turkey were among the guests.

During the Awards Week, the laureates attended and participated in meetings at universities and other educational centres. The meetings offered laureates an opportunity to present briefly their work and establish strong interaction and dynamic cooperation between the laureates and academic communities, professors, and students. The meetings facilitated networking and exchange of experiences between the laureates, young scientists and eminent professors.

Among these meetings, one was held on IAS Summit, fostering the development of cooperation networks among members of the scientific community. It also provided the Mustafa^(pbuh) Prize guests with the opportunity to engage in further interactions among themselves.

Second Round of the Mustafa^(pbuh) Prize

The MSTF sent the call for the second round of the Mustafa^(pbuh) Prize to 363 international institutions and organizations and 1622 prominent scientists all over the world. By December 2016, the Foundation had received submission of 241 projects from 31 countries. Some projects failed to obtain approval of the preliminary jury panels due to the fact that they produced no tangible results or had no specific applications, being ineffective in developing boundaries of knowledge, or being unfeasible and impractical in turning science into technology. After the jury assessment, two laureates were selected to receive the 2017 Mustafa^(pbuh) Prize.

The 2015 and 2017 Mustafa Prize Laureates

Prof. Jackie Ying

Born: 1966- Taiwan Province of China

Current residence: Singapore

Institutions: 1992, Faculty member at Massachusetts Institute of Technology (MIT); 2003, Founding Executive Director of the Institute of Bioengineering and Nanotechnology (IBN)

Publications and patents: 340 publications in leading journals, over 150 patents

The Mustafa^(pbuh) Prize in Bio Nanoscience (fourth category) in 2015 was awarded to Professor Ying for her outstanding contributions to the synthesis of well-designed advanced nanostructured materials and systems, nanostructured biomaterials and miniaturized bio-systems of various interesting applications including the development of “stimuli-responsive polymeric nanoparticles” for diabetic patients. These polymer nanoparticles are capable of auto-regulating the release of insulin depending on the blood glucose levels and thus helps diagnose diabetic patients. Her work was acquired by Merck in 2010, with potential aggregate payments in excess of \$500 million to further develop the technology for clinical trials.



Prof. Omar Yaghi

Born: 1965- Jordan

Current residence: USA

Institutions: 1992-97, faculty member at Arizona State University; 1998-2005, faculty member at University of Michigan; 2006-2011, faculty member at UCLA; 2011-present, Professor of Chemistry at UC Berkeley.

Publications and patents: more than 200 publications in leading journals, over 56 patents

The Mustafa^(pbuh) Prize in Nanoscience and Nanotechnology in 2015 was awarded to Professor Yaghi for his outstanding contributions in designing and production of classes of compounds known as Metal-organic Frameworks (MOFs), Zeolite Imidazolate Frameworks (ZIFs) and Covalent Organic Frameworks (COFs). Prof. Yaghi's invention of MOFs turned the dream of 'making materials by design' into reality. Prof. Yaghi has pioneered the field of making materials by linking both organic and inorganic units together by strong bonds into robust porous crystalline materials called nanoporous metal-organic frameworks (MOFs). These hybrid materials are useful in gas storage (hydrogen, methane, and carbon dioxide), hydrocarbon separations, catalysis, and more recently electronics. Prof. Yaghi developed this chemistry from the fundamental science all the way to applications. BASF is currently marketing his inventions as Basolites.



Prof. M. Amin Shokrollahi

Born:1964 -Islamic Republic of Iran

Current residence: Switzerland

Institutions: 2003, full professor position jointly at the School of Informatics and Communication Sciences (I&C) and the Faculty of Basic Sciences (FSB) of EPFL

Publications and patents: 400 publications in leading journals, 16 patents

The Mustafa^(pbuh) Prize in Information Theory in 2017 was awarded to Prof. M. Amin Shokrollahi in recognition of his outstanding work on Communications: Raptor Codes. The world's most advanced forward error correction (FEC) code for data networks, Raptor codes invented by Amin Shokrollahi in 2001, provide protection against packet loss by sending additional repair data used to reconstruct "erased" or "lost" data. Millions of products worldwide are using these codes, ranging from IPTV set top boxes to more dedicated data delivery systems enabling distribution of data to rural areas. Today, Shokrollahi's Raptor codes are marketed by Qualcomm, a world leader in the design of wireless systems, under the name "RaptorQ".



Prof. Sami Erol Gelenbe

Born:1945 -Turkey

Current residence: United Kingdom

Institutions: 2006- "Dennis Gabor" Professorship in Electrical and Electronic Engineering at Imperial College, London

Publications and patents: Over 1040 publications in leading journals, 7 patents

The Mustafa^(pbuh) Prize in Information and Communication Science and Technology in 2017 was awarded to Prof. Sami Erol Gelenbe for his pioneering research on "Modeling and Performance Evaluation of Computer Systems", i.e. G-network (Generalized Queueing network or Gelenbe network). He also introduced a new spiked stochastic neural network model known as the Random Neural Network, developed its mathematical solution and learning algorithms, and applied it to both engineering and biological problems.



The Mustafa^(pbuh) Prize Week in the second round of this event was broader and involved more activities. In order to facilitate interaction and create opportunities for cooperation between the laureates, other guest scientists, and universities, scientific events were held in eight universities located in Tehran as well as five universities in four other cities. These meetings were facilitated exchange of information and knowledge on latest topics in

the form of science and technology exchange programs (STEP) and creating opportunities for interacting with scientists and academicians. One hundred and ten participants from 33 countries attended this round of the Mustafa^(pbuh) Award Ceremony and found the opportunity to meet counterparts worldwide and discuss the latest developments in their own specialized fields.

Science and Technology Exchange Program among Muslim Countries (STEP)

In addition to identifying and showcasing science and technology pioneers in the Islamic world, the MSTF also aims to increase the level of cooperation and synergy in science and technology with an emphasis on advanced technologies. Prior to holding the first round of the Mustafa^(pbuh) Prize, designing a platform to achieve this was considered a priority. As a result, an event called “Science and Technology Exchange Program (STEP)” was held. This event aimed to showcase the language of science and technology; develop a framework for interactions among eminent scientists; prepare the groundwork for creating synergy and developing scientific cooperation; and stimulate scientific and technological activities among OIC member States.

STEP 2015

The first round of the STEP was held in December 2015, coinciding with the first round of the Mustafa^(pbuh) Prize in Tehran. It was attended by 60 prominent scientists from 25 countries. The event hosted scientific sessions in cooperation with the Islamic World Academy of Sciences (IAS), Academy of Sciences of Islamic Republic of Iran, University of Tehran, Tarbiat Modares University, and I.R.I Red Crescent Organization. The initiative further encouraged scientists all over the world to approach the progress of their research on STI within a new network. Such collaborative efforts ushered in research opportunities for professors of top universities in the South through interactions with top universities



in the North. Such opportunities have been an immense asset in terms of facilitating the progress of research carried out by applicant professors.

STEP 2016

The second round of STEP was designed in line with the objectives of the Prize and in such a way as to create scientific and technological interactions. "Launching STEP 2016" was proposed to various universities. The University Putra Malaysia (UPM) embraced the idea and met the MSTF requirements.

STEP 2016 was held between December 19 and 23, 2016 in Putrajaya, Malaysia, on the anniversary of the first round of the Mustafa^(pbuh) Prize. The event focused on the 2015 Mustafa^(pbuh) Prize laureate in the field of Nanoscience and Nanotechnology, Professor Omar Yaghi, who was the lecturer and the keynote speaker of this meeting. Professor Jackie Ying, 2015 Mustafa^(pbuh) Prize laureate in the field of Bio Nanotechnology also attended.

In addition to the presence of nearly 200 professors and university students from the host country, 26 renowned nanoscience and nanotechnology scientists from 12 countries of Bangladesh, Egypt, India, the Islamic Republic of Iran, Jordan, Malaysia, Morocco, Oman, Pakistan, Saudi Arabia, Singapore, and Turkey attended the meeting.

The interaction among various scientists attending the program made the environment ideally well suited to the initiation of mutual programs. A partnership which has been launched by UPM next to STEP 2016 is the Foundry of Reticular Materials for Sustainability (FORMS), Malaysia. FORMS was created to spearhead translational research of MOFs in Malaysia. This effort was catalysed by research networking between Universiti Putra Malaysia (UPM) and University of California, Berkeley (UCB) under the mentorship of Professor Omar M. Yaghi. FORMS is based at the Faculty of Science, UPM and collaborates with other faculties and research institutes



in the country. The core research activities focus on synthetic chemistry, materials science and agri-bio nanotechnology. Several ongoing projects are related to the synthesis and computational studies of MOFs derived from Schiff bases, homochiral ligands, amino acids, and peptides. Some other partnerships including supervision for paper publication in top ranked journals including Science could be achieved through such collaborations. Experience sharing in academic achievements and initiatives resulted in discussions which encouraged some of the participants to apply the lessons learned in their countries, including some fruitful initiatives associated with the academic community in Pakistan.

A very interesting interaction that made the MSTF more confident regarding future plans of expansion of STEP and encouraged the organization to learn more about how to build a platform to fulfill the needs of targeted communities has taken place between professors from Oman and Bangladesh at the request of Prof. Mubarak. This interaction represented an initiative to launch Exposure of Industries to Scientists' Achievements (EISA). The 'Jute poly bag' discovered by Prof. Mubarak is a biodegradable and eco-friendly bag made from jute cellulose. The bag looks like polyethene bag but is in fact quite different. The strength is also about to same of polyethene bag, and the product is 100 per cent eco-friendly, sustainable, recyclable and will be mingled with soil within only 3 to 4 months, whereas polyethene can take as long as 200 years to biodegrade. The colours used in the design are also food grade.

The STEP continued its mission to facilitate interaction and effective networking on mutual collaboration among scientists via a virtual network, which began with 30 members, has rapidly expanded to 60, by virtue of the fact that it is hosts eminent scientists.

STEP 2017

The third round of this event was held on the side-lines of the second round of the Mustafa^(pbuh) Prize Award Ceremony in the Islamic Republic of Iran. The third STEP included 12 specialized meetings in University of Tehran, Sharif University of Technology, Imam Sadiq University, Iran University of Science and Technology, Tarbiat Modares University, Tehran University of Medical Sciences, and Shahid Beheshti University of Medical Sciences and Health Services, and University of Tehran College of Agricultural and Natural Resources.

These sessions focused on scientists' latest scientific achievements in the areas of nanotechnology, biotechnology, medicine, information technology, smart drug delivery, mechatronics, and photonics. Imam Sadiq University, however, hosted panels on Islamic economics and banking.

The general outline of these meetings was different at various universities where the plan and its implementation were both carried out with the help of science and technology experts at each university. The program of these



meetings was divided into four categories: 'holding meetings with university officials and visiting relevant departments'; 'visiting laboratories and their equipment'; 'holding specialized meetings concerning scientists' areas of expertise attended by professors and Ph.D. students'; and finally 'holding scientific lectures and convening scientific panels with broader participation by students'.

The laureates of the Prize and eminent scientists can attend various lectures and meetings for mutual collaboration as part of the program. Nineteen investors from Bangladesh, Egypt, Nigeria, Indonesia, the Islamic Republic of Iran, Malaysia, Pakistan, and Turkey have gathered together to engage in closer interactions with these eminent scientists, pursuing relevant research in the form of products or services designed to enhance the welfare of the community. The session organized to fulfil the aforementioned interest of both parties is officially launched as EISA in future.

STEP 2018

The fourth STEP is to be held between 2 and 5 December, 2018 in collaboration with Sultan Qaboos University in Muscat, Oman. It will be attended by the Mustafa^(pbuh) Prize laureates and will provide scientists and researchers with an opportunity to present their achievements. Moreover, the presence of investors and industrialists in this event and their interaction with scientists will have a significant impact on the success of the presented plans and projects.

One of the differences between this event and the previous ones is the 'subject matter'. This STEP intends to deal with existing challenges more practically while finding ideal solutions, hence the focus of this round will be on health, energy, and water. Research and achievements which have been discussed and obtained vis-à-vis the scientific areas of the Mustafa^(pbuh) Prize and which are relevant to these challenges will form the backbone of this event.



Mustafa^(pbuh) Science Center

The Mustafa^(pbuh) Science Center is designed to be a unique and inspiring environment to spark curiosity and innovations, focused on innovations. It pursues the goal to train and nurture future leaders of science and technology out of talented younger generations. Programs and events are designed to encourage student engagement in STI activities. The Center has started the “Noor Student Competition” for school students, which has been held twice, and the “KANS Scientific Competition”, with a focus on young researchers at the university level. Further complementary programs are at the design stage with a view to enhancing the capability of students. The programs aim to build a creative environment and stimulate students' motivation to learn. The activities in the Center are focused on two main divisions at the student level: school/pre-university and university.

School/ Pre-university Students

The Mustafa^(pbuh) Science Center has a plan to enrich the school/pre-university students by conducting and offering more complementary programs in the near future, targeting OIC member States.



The Noor Student Competition

In 2014, the MSTF proposed planning and organizing a student event based on earlier research and analysis. Various proposals were reviewed and discussed, and eventually the proposal for the Noor Student Competition was approved. The Competition commenced its work in 2015.

The First Round of the Noor Student Competition

The first round of the Noor Student Competition was held commemorating Ibn al-Haytham because 2015 was named 'The Year of Light' by UNESCO. The subject of this competition was 'making one-minute scientific video clips' which aimed at encouraging the younger generation and opening up new horizons in science and technology.



The Second Round of the Noor Student Competition

The second round of the competition was named after Professor Jackie Ying, the Mustafa^(pbuh) Prize laureate. At the end of October 2016, the call for this competition was announced and the eligibility criteria for participation were specified in this call as making 60-second video clips of student teams' scientific experiments in the fields of physics, chemistry, biology, mathematics, astronomy, and a combination of various sciences. More countries of the region, including countries of the South, participated in the second round of the Competition. During the seven-month deadline for participation, more than 5,000 students took part in the competition by sending nearly 2,000 video clips where finally 231 students were selected in form of 105 teams. The closing ceremony was held in September 2017 (Fig. 3).³



Figure 3. Noor Student Competition Closing Ceremony; Prof. Jackie Ying's Recognition

The Mustafa^(pbuh) School Students Adventure Competition



Following the success of the Noor Student Competition, designing complementary capacity building programmes for students has commenced. The Students Adventure Competition is a program aimed to meet the aforementioned objective. The event has been designed to “create a unique and inspirational atmosphere for stimulating the curiosity and initiative of students”. It has two sections, including training and conducting research (Fig. 4). The first round of the competition will be held in 2018 in presence of applicants from various countries among the South.

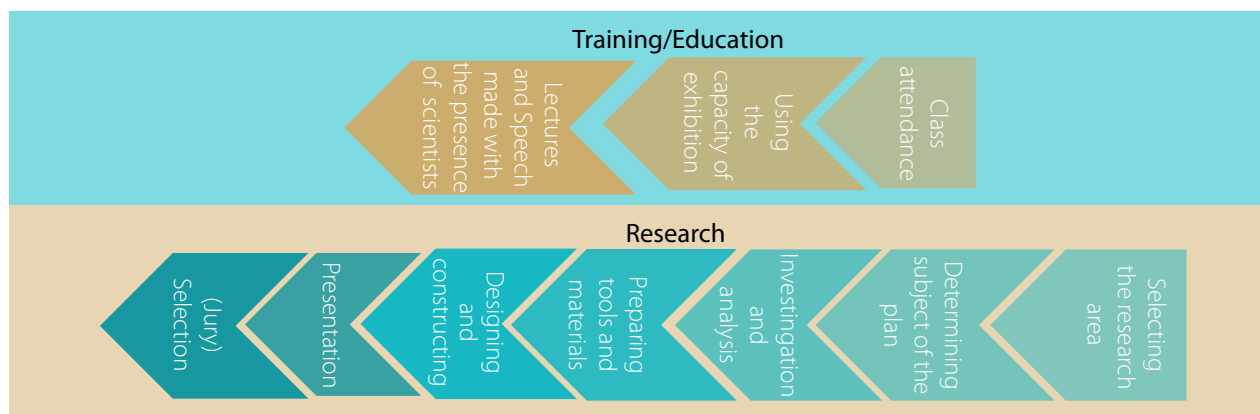


Figure 4. The Process of Mustafa^(pbuh) Science Center's School Students Adventure Competition

³ The term figure has been used throughout this publication as an umbrella term for all figures, drawings, illustrations, photos, etc.



The Noor Student Competition is taking initial steps that are to be complemented by further programs such as the Students Adventure Competition, which is currently at the development stage. The group of talented students in target countries are identified through the Noor Student Competition. These groups of students need to be provided with a platform if they are to become truly engaged with the challenges they are to overcome, through coaching by experts and mentors in the field. During the Students Adventure Competition, students find opportunities to interact, learn from and compete with each other. In addition to empowering them in areas of STI, students have an opportunity to learn more about the other participants and engage in networking to facilitate further interaction in future at the global level.



University Students Event Program of Mustafa^(pbuh) Science Center

KANS Scientific Competition

KANS stands for Knowledge Application and Notion for Society. It aims to present science-based solutions to human issues which are offered by participants in this competition. In the competition, participants submit their scientific achievements in form of a 3 to 5 minute video. KANS seeks to pursue efforts in the following areas:

- finding solutions to tackle the current challenges of human communities;
- using the characters and capacities of specialists to develop science and technology and to meet the needs of various industries;

- pushing young elites to create scientific projects of higher quality and in larger quantity;
- paving the way for more interaction among researchers, technologists and investors as to foster science and technology;
- creating a valuable treasure trove of works by collecting participants' achievements
- building a platform for interaction and cooperation between the competition winners and the Mustafa^(pbuh) Prize laureates, and thereby creating scientific networks at different levels.

The areas of KANS competition include: health, information and communication technology (ICT), water and the environment, energy, and economics. The initial selection process begins by a group of experts in the field.

Once the initial selection process is completed, a number of works from each field are selected. At this stage, participants are asked to modify their video clips based on the comments made and resubmit their work.

The selection process in the second stage is undertaken by scientific committees from each field. After these two stages, and considering the number and quality of the selected projects in the second stage, a number of selected projects in each field will be chosen for a third stage. It is worth mentioning that the results of the second stage will not be revealed to the participants until the end of the ceremony.

In the third stage, selected projects are reviewed and scored by a multi-dimensional committee and the top individuals in each area are selected. All participants who were selected for the second stage are invited to the closing ceremony, where one of the main programs is the speeches made by those ranked as the first 3 in each field. During their speeches, participants explain the idea, plan, article, thesis, book, or product they have submitted to the competition. Honouring top individuals, awarding the prizes, and the keynote speech are among other programs.



The first round of the KANS Scientific Competition is to be held in 2018, encompassing over 1,200 applicants from 18 countries. The ultimate aim of the competition is to provide a pool of talent and innovative solutions to existing problems encountered in socially relevant fields of science and industry in order to overcome the associated obstacles. Therefore the future phase of the program is designed to bridge the outcome of the program with the industries of various countries at the international level.

The Sabbatical Program

The Sabbatical Program to send students abroad to enhance their knowledge with the goal of capacity building for the community was one of the topics discussed under the activities conducted by the Mustafa^(pbuh) Science Center. The program was intended for young scientists and the future leaders in science and technology. Accordingly, studies were conducted on how to hold this program and, as a result, the program has been started in collaboration with NanoBio Lab in Singapore whose management is by 2015 Mustafa^(pbuh) Prize laureate, Prof. Jackie Ying. The NBL is one of the leading centres in nanobiotechnology and offers a variety of programs for university and school students aged 12 to 23 years. Considering the possibility of interacting with Prof. Ying, the program of sending target countries' university students abroad was proposed and approved. Out of 800 applications from 23 countries in 2018, a fellow from Egypt met the criteria and was sent for the program in summer 2018. The program is under negotiation with other members of the network (particularly the Laureates) in order to enhance the capabilities of young scientists in targeted societies.

Safir Al-Mustafa^(pbuh) Society

Safir Al-Mustafa^(pbuh) (Mustafa^(pbuh) delegates) are volunteers who are often from scientific communities, academic centres, and universities or media in the target countries who contribute to the activities of the MSTF through casting a spotlight on science and technology in their own societies, communities or countries. These people endeavour to strengthen the ties between countries involved in STI development within the MSTF network. This process will engender a network of volunteers who are interested in STI development globally and will be in interaction throughout the year to make their own societies benefit from the valuable network of Safir Al-Mustafa^(pbuh) Jamia (Safir Al-Mustafa^(pbuh) Society).



Other Core Activities and Programmes

Research Grant Program

Considering the importance of applied research in stimulating the breathing cycle of science and technology, the issue of awarding research grants by the Prize institution was proposed for the first time in November 2016 at MATI (Pasteur Institutes of Morocco, Algeria, Tunisia, and Iran) regional meeting. This meeting was held at the Iran Pasteur Institute with the presence of Pasteur Institute of France and aimed to promote and support scientific cooperation and technology transfer between the Middle East and North African countries through undertaking joint scientific projects related to people's lives and health. Accordingly, it was decided that the MSTF should award applied research grants in the healthcare area to scientists who work in this field.

The MSTF announced the following criteria to offer the grants to provide motivation for projects which address regional or international challenges through the adoption of scientific solutions. The research grant will be offered to projects at least two countries help in defining a mutual problem; organize a multinational team from at least two countries to address the problem; conduct the project in partnership so as to fulfil the objective of the research in an effort to overcome the mutual problem and apply the result in

contributory nations; and finally the financial contribution for the research also should be made from contributory countries as well. These conditions were created to ensure that research activities address a real problem of Muslim countries as a part of the global South. The conditions also encourage South-South learning and exchange. The grant will be announced as per the priorities announced by the MSTF based on community challenges and issues every year.

Exposure of Industry to Scientists Achievements (EISA)

EISA is a platform developed to meet the needs of scientific communities and academia to promote their achievements in the form of technological products and services to new markets, with a focus on the Islamic world. The program is planned to fulfil the needs of influential bodies from industries, especially from the host country, to facilitate efforts to localize the developed technologies of other countries in the host country, such as companies, investors, venture capitalists, etc. It also welcomes owners of technology, including scientists and technologists who have a demonstrated track record in terms of products and services that have the potential to command a market or have taken a potential market for granted. The program will yield insights for regulators and facilitators who can

pave the way for better and smoother business dealings.

EISA was developed following the identification of a demonstrated need during the STEP 2016. The initiative was taken to Tehran in 2017 and had participation from venture capitalists from Bangladesh, Egypt, Nigeria, Indonesia, the Islamic Republic of Iran, Malaysia, and Pakistan. The second round is planned to be held in Muscat in 2018. The third round of EISA is planned to be held in February 2019 in Karachi. Based on agreements between the MSTF and each of the future probable host countries, it could be held in various countries annually, or more frequently.

The program plans to make a database of the demand and supply side in order to provide an environment for technology transfer among different nations, focusing on capacity building for Islamic countries.

Financing the Mustafa^(pbuh) Prize and MSTF activities

Upon the establishment of the Mustafa^(pbuh) Prize, the idea of financial independence from any government resources and financing through public funding and investment was proposed. The first proposal was made by Islamic Development Bank (IDB) where, in the second meeting of the Policy-making Council, the IDB President put forward the proposal of building a commercial-administrative complex by which it was decided that revenues from this complex be used in line with the goals and objectives of the MSTF. Although the proposal is not yet operational, it is an option on the table. In addition to this proposal made by the IDB, a series of activities to attract

public resources have also been pursued in the MSTF. The Mustafa^(pbuh) Prize Investment and Endowment Fund (MPIEF) was officially registered in October 2015.

The MPIEF was established with the aim of becoming the largest fund for science and technology development in the Islamic world. It launched its activities with a mission of “science and technology to promote peace, security, and well-being of mankind” and pursued the goal of “financing the Mustafa^(pbuh) Prize while investing and supporting the development of science and technology” adopting the motto “Each Muslim Has One Share to Develop Science and Technology in the Islamic World”.

The MPIEF’s capital is obtained from endowment or Qardhul Hassan (interest-free loan) where contributed resources in form of endowments belong to the MPIEF whereas the principal resources of Qardhul Hassan belongs to the contributor and the interest generated by the investment belongs to the MPIEF.

All funds paid by the benefactors to the MPIEF are invested in banks in deposits and securities investments, especially fixed income securities.



Figure 5-Khadem Al-Mustafa Insignia

To date, the Fund has over 317 individuals and 53 legal bodies and entities, including the ECO Science Foundation (ECOSF), University Putra Malaysia (UPM), and Nahdlatul Ulama in Indonesia.



Figure 6- Khadem Al-Mustafa Insignia Award Ceremony

Financial contribution to the Fund includes “scientific votive offerings (Nazr)”, “scientific endowment”, and “Qardhul Hassan” (interest free loan). In scientific votive offerings (Nazr) individuals or entities commit themselves to devoting part of their profits from the production and sale of their products to the fund within specified time periods, such as part of a garden or a farm products, a dividend of a company, or a percentage of a commodity sales profits. A number of legal benefactors contributed in this way to the fund by devoting a part of their annual profits.

Scientific endowment, however, requires stable and durable endowment funding which is sustainable over time. Real estate or a share of a company earmarked for the pursuit of the objectives of the MSTF can be examples of such contributions. In Qardhul Hassan, which is a type of interest-free loan, the benefactor lends an amount of money to the fund for a certain period of time. The fund invests this amount of money and at the end of the loan period, the principal amount is repaid to the lender whereas the interest and profits generated by the investment will belong to the Fund.

Mustafa^(pbuh) Arts Museum

The language of art is a strong vehicle to communicate internationally. The MSTF endeavours to communicate STI through this common language with the world. Many artists from countries of the South, in particular from the Islamic world, are working with the Foundation to achieve this objective. These activities have led to the establishment of the Mustafa^(pbuh) Arts Museum, which started work with a hand woven tapestry dedicated to the MSTF by an accomplished Persian carpet weaver. The Mustafa^(pbuh) Arts Museum is a platform for showcasing and illustrating benefactors’ goodwill and noble intentions in science and technology endowment globally.



Figure 7- A handmade carpet offered to Mustafa^(pbuh) Arts Museum

Promotion of the History of the Mustafa^(pbuh) Science and Technology Foundation

Promotion activities around the Mustafa^(pbuh) Science and Technology Foundation and Prize began simultaneously since the day of establishment and have been pursued in various sectors.

The Foundation’s representatives took part in Session of COMSTech General Assembly Meeting by the Science Ministers of IOC member States in Pakistan in 2015. At the end of this meeting, according to the consultations held, the Mustafa^(pbuh) Prize was addressed in the resolution of this meeting.

Upon holding the 2015 Mustafa^(pbuh) Prize, there was widespread national and international media coverage of this event, including 31 American media outlets, 22 Asian media outlets, 6 European media outlets, and 26 Arabic media outlets. In addition, prestigious magazines including Science covered the event. Science magazine published an article under the headline “Iran Creates Muslim Nobel” (Fig.8).

The media coverage of the 2017 Mustafa^(pbuh) Prize was much broader than the first round. In total, 751 media contents broadcasted and circulated on 257 television channels, radios, newspapers, news agencies, or news websites in 19 countries. This included 180 minutes of television broadcast in 42 different programs on 18 channels, the most prominent of which are Al Mayadeen, RT (Russia Today), MSN, U-News, Al-Manar, Al-Alam, and Press TV. In addition, 4 radio broadcasts in 18 different programs for 44 minutes reported on the Mustafa^(pbuh) Prize. Moreover, 60 newspapers including the Guardian, Washington Post, New York Times, Daily Mail, Hürriyet (Turkey), Al-Watan (Kuwait), Al-Ittihad (Lebanon), Al-Wasat (Oman) along with 139 news agencies including the BBC, the Associated Press, Deutsche Welle, ABC and 36 news and scientific websites including university websites of Newcastle, EPFL, Imperial College London, the European Academy of Sciences (EurASc), and the National Academy of Technologies of France (NAFT) published news on the Prize event.

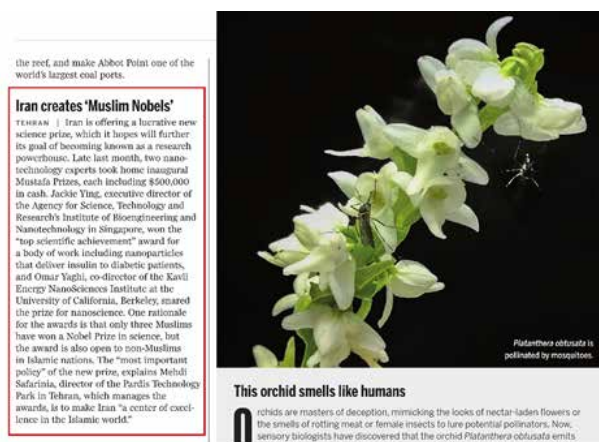


Figure 8- SCIENCE Article on The Mustafa^(pbuh) Prize





Chapter III

CONNECTION BETWEEN MEASURES
AND PLANS OF MSTF AND THE GLOBAL
DEVELOPMENT LANDSCAPE

CONNECTION BETWEEN MEASURES AND PLANS OF MSTF AND THE GLOBAL DEVELOPMENT LANDSCAPE

The MSTF has many connections to high-level global development plans and strategies, as outlined below. In all its work, the MSTF strives to accelerate the achievement of the Sustainable Development Goals.

It is important to note that the MSTF is sensitive about gender discrimination and is committed to achieving an ideal world where gender discrimination does not exist. Male and female equality is implicit in all the Foundation's activities. The MSTF attempts to contribute to educational development for women and girls in the countries of the South through removing social and cultural obstacles. Hence the MSTF has planned to hold a STEP for women, recognizing female scientists and identifying and nurturing young talents. It also plans to instil a sense of self-confidence, self-reliance and pride among girls and women (and among men) by honouring female researchers.

Paris Agreement on Climate Change

According to Article 5 of Paris Agreement on Climate Change, the need for enhancement of science and technology has been recognized along with the requisite policy implementation efforts. The MSTF intends to take actions in accordance with this agreement by setting goals to promote cooperation and synergy in the fields of science and technology among Islamic countries with an emphasis on advanced technologies, to create an atmosphere for cooperation and interaction among experts and scientists of target countries, and to introduce the Mustafa^(pbuh) Prize as a perfect symbol of competence and scientific excellence worldwide. The MSTF also strives to identify and introduce state-of-



the-art technologies to its audience and the target societies while honouring the owners of cutting-edge technologies and scientific achievements, and improving the scientific and technological standing of scientists around the world. In the same vein, the MSTF aims to play a key role in policy spearheading a collective movement and bringing about scientific dedication to reduce technological dependency while encouraging the OIC member States.

According to Article 136 of Section 5 of Paris Agreement, science and technology and the efforts made by domestic and local societies for the exchange of knowledge and experience are of the utmost importance. In this regard, the MSTF, in order to create interactive and cooperative opportunities among scientists and scientific communities in target societies, holds its scientific meeting attended by distinguished scientists in the form of STEP or scientific events in different cities of various countries, which are mostly located in the global South. Moreover, the

Foundation strives to play an effective role in enhancing the scientific level of less developed regions and countries by means of creating and developing technological and scientific cooperative networks along with cooperative activities among renowned scientists. Bridging the gap between technological development and science production sectors, on one hand, and creating an atmosphere of interaction and cooperation between these sectors, investors, and benefactors to accelerate these countries' development of science and technology in the interest of the improvement of welfare, security, and health, on the other hand, leads to local empowerment, and thereby enhances the general public welfare.

Based on Article 4 of the Paris Agreement, developed countries which are members of this Agreement, shall support developing countries in line with meeting the goals of this Agreement. Hence, arranging for science and modern technologies as well as cutting-edge knowledge to be taught by the scientific

communities and institutions of developed countries can be a huge step in embarking upon this path. Along the same lines, the MSTF defines areas of cooperation with prominent scientists in developed countries so as to contribute to sustainable development in target countries and pave the way for technological self-sufficiency by means of educating young researchers, transmitting technology, and exchanging knowledge and experience.

According to Article 136 of Section 5 of the Paris Agreement, setting the stage for exchanging experience, sharing the best solutions on mitigation, and adopting comprehensive solutions are recognized. Through staging the KANS scientific competition, the MSTF is demonstrating that it is seriously committed to such initiatives and is fully intent upon making efforts in this regard by gathering novel and original ideas, while providing people around the world with ingenious ideas for reducing environmental pollution.



Nairobi Outcome Document of the High-level United Nations Conference on South-South Cooperation

According to Article 6 of Section 1 of the Nairobi Outcome Document, among other factors, the development of science, technology, and innovation in different societies and ensuring equal accessibility to such issues for everyone in addition to enhanced policy-making regarding employment, education, and youth health are the most important factors in attaining sustainable development.

Selecting the areas of the Mustafa^(pbuh) Prize has been in line with this very approach where a needs analysis of the Islamic world, which mainly includes the countries of the South, led to the selection of three fields, specifically, "Life and Medical Science and Technology",

"Nanoscience and Nanotechnology", "Information and Communication Science and Technology". The fourth area, "All areas of science and technology", can result in further motivation and enthusiasm in young people for acquiring science and technology and tapping these energies to create employment and generate income while improving mental health in individuals and society through efforts to influence youth and create role models for young people.

In doing so, the MSTF began to hold events which have laid the groundwork for enabling platforms for the target audience including school students, university students, faculty members and professors of universities and scientific centres. Attempting to create an interactive atmosphere, such programs which focus on science and technology aim to



enhance the scientific level of their members through efforts to establish patterns of interaction among them. The Noor student competition, KANS scientific competition, and Science and Technology Exchange Programs (STEP) are among these platforms.

According to Clause D, Article 60, Section 3 of the Nairobi Outcome Document, the exchange of knowledge and technology based on multilateral volunteer agreements can strongly stimulate economic growth and sustainable development.

Therefore, the MSTF, through holding scientific meetings including STEP sessions, has begun to prepare the groundwork for these interactions. Accordingly, 12 specialized sessions were held within the week of the Prize Award Ceremony at various universities in different cities of the Islamic Republic of Iran with presence of prominent scientists, scientific officials from several countries, and university presidents.

Developing the interaction within the scientific community in form of building a scientific network of prominent scientists and technology researchers is carried out by means of Science and Technology Exchange Programs (STEP), through which some prominent and distinguished scientists actively participated voluntarily in order to support the development of science and technology in the Islamic countries. This network has been designed and supported by Safir Al-Mustafa^(pbuh) Club in universities in target countries. The Club organizes various sessions, workshops, and educational courses in field of science and technology.

According to Article 14 of the Nairobi Outcome Document, investment in science, technology, and innovation is a powerful impetus for developmental cooperation. In this regard, the MSTF has designed and staged meetings to

develop technology by investors and acquaint these investors with scientists' achievements (EISA). The first round of such meetings was held in December, 2017 and the next round is scheduled to be convened in 2018 in Oman and 2019 in Pakistan. These meetings are to be held annually in Islamic countries with the presence of industry and investors from different nations so as to prepare the ground for effective cooperation in the South. Such a meeting was attended on the side-lines of Ceremony Week by prominent scientists introducing their technologies, products, and achievements to industries.

Furthermore, according to Article 6 of Section 1 of Nairobi Outcome Document, policies regarding 'fostering science, technology, and innovation', 'improvement of rules and regulations' and 'ensuring equal access to justice' must be put into effect. Investment on scientific achievements of distinguished scientists and introducing them to other fields relevant to science and technology in developing countries as well as other countries shall make a significant contribution to the above-mentioned category.



Addis Ababa Action Agenda

In line with Article 28 of Section 2 A of Addis Ababa Action Agenda, which recognizes the need for technological assistance via multilateral, bilateral, regional, and South-South cooperation based on the needs of the countries, the MSTF has concluded agreements and MOUs on an international scale, including the signing of an MOU with Nahdlatul Ulama in Indonesia on various areas including scientific fields, financing, promoting science and technology, and supporting those active in this area such as scientists and researchers. At this juncture, the role of the MSTF as a vehicle for transmitting the experiences with Nahdlatul Ulama to other similar foundations in other countries of the South is crucial, and this central role will hopefully be embraced as part of the MSTF approach, as evidenced in numerous countries such as Oman, Pakistan, and the Russian Federation.

Buenos Aires Plan of Action

According to Article 9 of the Introduction to the Buenos Aires Plan of Action, the main objective of technological cooperation among


developing countries is the advancement in collective and national self-reliance of developing countries and encouraging creativity to understand and solve the problems hindering development. The MSTF, through establishing and improving interaction among the countries of the South in addition to some influential international organizations including the Islamic Development Bank and Academy of World Sciences, strives to prepare the ground for enhancing the collective self-reliance of countries of the South while taking steps aimed at tackling the problems which impede development. Moreover, the MSTF tries to promote cooperation among these countries by playing the role of an intermediary, a facilitator, and a presenter among universities and scientific centers of developing countries. Based on the last page of the Buenos Aires General Assembly's Plan of Action, the MSTF is endeavouring to plan, initiate, and organize such cooperation so that developing countries are able to create technology and develop knowledge and transmit this to other countries while they achieve collective and national self-reliance and mutual benefit.





www.mstfdn.org




English:

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-  LinkedIn: linkedin.com/company/mustafa-prize
-  Instagram: [mustafaprize_en](https://instagram.com/mustafaprize_en)
-  YouTube: youtube.com/channel/UCQeipk61Nk7V187gRVFIRVQ
-  Flickr: flickr.com/photos/133381189@N02

Arabic:

-  Twitter: @mustafaprize_ar
-  Facebook: facebook.com/Mustafaprize1.ar/
-  Instagram: [mustafaprize_ar](https://instagram.com/mustafaprize_ar)
-  YouTube: youtube.com/channel/UCGX0s7SJP7kosuZhrcZuAXA
-  Flickr: flickr.com/photos/mustafaprizear

Farsi:

-  Instagram: [mustafaprize_fa](https://instagram.com/mustafaprize_fa)
-  Aparat: [mustafaprize](https://aparat.com/mustafaprize)
- Sapp: [mustafaprize](https://sapp.com/mustafaprize)
-  Lenzor: [mustafaprize](https://lenzor.com/mustafaprize)

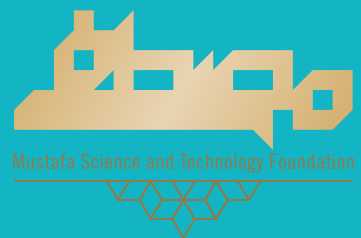


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