



 **IRENA**  
International Renewable Energy Agency

# IRENA

## Scholarship Programme

At Masdar Institute of Science and Technology





“The development of high calibre human resources dedicated to renewable energies is critical for their rapid deployment especially in developing countries. The partnership between IRENA and Masdar Institute of Science and Technology through this scholarship programme provides a living example of concrete and effective efforts that can make a difference.”

**Adnan Z. Amin**

Director General, International Renewable Energy Agency (IRENA)

## About IRENA

Since its founding in January 2009, IRENA – the International Renewable Energy Agency – has become a nexus of international efforts to accelerate the deployment of renewable energy technologies. The prestigious annual IRENA Scholarship Programme is the flagship of the Agency’s education and training activities which constitute a vital part of its Work Programme aimed at building national capacities in renewable energy by encouraging innovation, collaborative working and sharing best practices and lessons learned.

## The Scholarship Programme

IRENA’s Scholarship Programme benefits from the generous support of the Government of the United Arab Emirates which offered to provide 20 full scholarships each year at the Abu Dhabi-based Masdar Institute of Science and Technology. The scholarships are part of IRENA’s capacity-building programme aimed at providing a wealth of knowledge, innovative research opportunities, and opening high-level communication channels between energy policy-makers and highly-accomplished individuals from various regions of the world. Although the programme is open to all nationalities, special consideration is given to applicants from developing countries.

The programme is a meeting point for IRENA’s expertise in renewable energy policies, Masdar Institute’s innovative

and high-level research environment, and passionate students ready to advance renewable energy as a solution to the world’s energy problems.

## About Masdar Institute of Science & Technology

Masdar Institute of Science and Technology, the first research-based institute in the region specialising in advanced energy and sustainable technologies, policies, and systems, was created in 2009 in collaboration with the Massachusetts Institute of Technology (MIT). It provides eight Masters of Science programmes (Chemical Engineering, Computing and Information Science, Electrical Power Engineering, Engineering Systems and Management, Materials Science and Engineering, Mechanical Engineering, Microsystems Engineering, and Water and Environmental Engineering) at its campus located in Masdar City in Abu Dhabi – the capital of the United Arab Emirates.

Masdar Institute follows the MIT model, placing great emphasis on research. Students and faculty dedicate at least 50% of their time to research and more than 30 projects are currently underway including studies on Solar Beam Down, Innovation Ecosystems, Smart Grids, and Aviation Biofuels.

For more information, please visit: [www.masdar.ac.ae](http://www.masdar.ac.ae)

“The collaboration between Masdar Institute and IRENA is an attestation of the commitment of the UAE and Masdar in response to the pressing issue of the world’s energy challenges. We welcome IRENA Scholars to Masdar Institute, a vibrant and creative hub in Abu Dhabi, where talented students, world-class faculty, and supportive staff are integrating technology, policy, and systems in an attempt to be part of the solution.”

**Dr. Fred Moavenzadeh**

President, Masdar Institute of Science and Technology

## 10 Reasons to Become an IRENA Scholar

1. Full scholarship for two years (including tuition, textbooks, housing, medical insurance, laptop, and travel expenses) with no bonds upon graduation.
2. Cost of living allowance.
3. Possibility of first-hand experience with IRENA through an internship.
4. Excellent networking potential.
5. Exclusive access to the IRENA Lecture Programme.
6. Innovative academic environment.
7. Specialised renewable energy courses and state-of-the-art laboratories.
8. Multidisciplinary research approach with more than 30 projects underway.
9. Academic programmes developed with MIT.
10. Highly-diverse and dynamic environment.

## What Makes IRENA Scholarship Unique?

IRENA Scholars will enjoy unique opportunities to access first-hand information on renewable energy-related topics and maximise their networking potential through:

1. Direct contact between the Scholars and staff members from IRENA’s three programme areas (Knowledge Management and Technology Cooperation, Policy Advisory Services and Capacity Building, and Innovation & Technology) related to the Scholar’s research topic. Scholars

will be able to collaborate closely with IRENA in terms of access to information, case studies, policy recommendations and other facilities.

2. Monthly high-level, informative lectures delivered by world-renowned energy experts. The lecture programme aims at broadening the Scholars’ understanding of the current policy and regulatory aspects of renewable energy and highlighting the latest developments in renewable energy technology.

## 2011 - 2012 LECTURE PROGRAMME

LECTURE TOPIC	SPEAKER
Renewable Energy Policies and Measures: <i>Socio-Economic Impacts of Renewable Energy</i>	<b>Thomas B. Johansson</b> <ul style="list-style-type: none"><li>• Professor, International Institute for Industrial Environmental Economics, Lund University, Sweden.</li><li>• Co-Chair, Global Energy Assessment, IIASA.</li></ul>
Renewable Energy Policies and Measures: <i>Policy Frameworks for the Massive Deployment of Renewable Energy</i>	<b>Paolo Frankl</b> <ul style="list-style-type: none"><li>• Head, Renewable Energy Division, International Energy Agency (IEA).</li><li>• Former Advisor to the Director General, Italian Ministry for the Environment.</li></ul>
Innovation and Technology: <i>Technology Learning and Innovation Processes for Renewable Energy</i>	<b>Zhang Xiliang</b> <ul style="list-style-type: none"><li>• Professor and Executive Director, Institute of Energy, Environment and Economy, Tsinghua University, Beijing.</li><li>• Secretary General, New Energy Committee of China Energy Research Society.</li></ul>
Innovation and Technology: <i>The use of Renewable Energy Scenarios for Decision Making</i>	<b>Daniel M. Kammen</b> <ul style="list-style-type: none"><li>• Professor, Energy and Resources Group, University of California, Berkeley, USA.</li><li>• Former World Bank Group's Chief Technical Specialist for Renewable Energy and Energy Efficiency.</li></ul>
Knowledge Management: <i>Access to Energy and the Role of Renewable Energies</i>	<b>Christine Eibs Singer</b> <ul style="list-style-type: none"><li>• E+Co's Co-Founder and CEO.</li><li>• Founding member, Aspen Network of Development Entrepreneurs.</li></ul>
Knowledge Management: <i>Renewable Energy Potentials and Mapping</i>	<b>Søren Krohn Hansen</b> <ul style="list-style-type: none"><li>• CEO, Søren Krohn Consulting, Denmark.</li><li>• Former European Wind Energy Association Vice President.</li></ul>



“In continuing our commitment and support to IRENA, the UAE established a unique scholarship programme between the Masdar Institute and IRENA to promote human capital development. Through this collaboration, IRENA aims to cultivate the next generation of renewable energy innovators and leaders by providing them with the necessary experience to apply the deep expertise they are acquiring at the Masdar Institute.”

**Dr. Sultan Ahmed Al Jaber**

UAE Special Envoy for Energy and Climate Change and CEO of Masdar



## 2011-12 Scholarship Programme Achievements

- » 20 highly-accomplished applicants were awarded scholarships.
- » Scholars originate from 11 countries with the majority (95%) from developing countries.
- » Females account for 25% of all awarded scholarships.
- » Six high-level, informative lectures delivered by world-renowned professionals in the field of renewable energy.

## IRENA Scholars Research Topics

The Scholars undertake a two-year research-intensive Masters programme on a renewable energy-related topic. For 2011-2012, the Scholars' research covers a wide range of topics, including:

- » Demand Response and Adaptive Generation of Renewable Energy;
- » Optimisation of Dye-Sensitised Solar Cells;
- » Integration of Renewable Energy into the Grid;
- » Stability Analysis of Diesel and Photovoltaic (PV) Hybrid Micro-grids;
- » Developing an Innovation Cluster for Renewable Energy at Masdar City;
- » Analysis and Modeling of Wind Potential; and,
- » Evaluation of Policies and Financial Mechanism to Support Renewable Energy Deployment.

# Who Can Apply?

The programme is aimed at highly-talented and motivated individuals who have completed their undergraduate education (or are near completion) and are passionate about undertaking a research-intensive Masters in an innovative environment at Masdar Institute of Science and Technology in Abu Dhabi.

# How to Apply?

Interested students should apply for an IRENA Scholarship directly through Masdar Institute's website. All applicants have to comply with the institute's entry requirements and all required proofs and certificates must be submitted to Masdar Institute.

It is important that candidates indicate their specific interest in IRENA Scholarship on the Masdar Institute online application form and activate the appropriate box when submitting applications. Failure to do so will lead to the application being considered for a normal Masdar scholarship. Please refer to the following link for more details: <http://www.masdar.ac.ae/admission.html>

# Selection Criteria

Applicants for IRENA's Scholarship Programme must first meet the academic standards and regulations of Masdar Institute. IRENA will then select winning candidates from those who qualify in accordance with additional criteria:

- » Masdar Institute Criteria:

Please refer to: <http://www.masdar.ac.ae/admission.html>

- » IRENA Additional Criteria:

- Desired specialisation within the chosen MSc programme.
- Description of knowledge already acquired in the field of renewable energies and relevant previous professional engagements or experience.

- In case of equal aptitude, priority will be given to applicants from developing countries.

# Scholars Are Expected to:

1. Attend the IRENA Lecture Programme Series.
2. Pursue a research topic related to the six renewable energy sources that IRENA focuses on (Biomass, Geothermal, Hydro, Ocean, Solar, and Wind) during the period of the scholarship.
3. Complete a Master's thesis following the agreed-upon subject.
4. Adhere to Masdar Institute's policies and procedures, as set out in the Masdar Institute Student Academic Handbook.

# Apply Now!

- » The application process is now open and will close on 31<sup>st</sup> May 2012.
- » Apply online via Masdar Institute of Science and Technology website.
- » For further information, please contact: [scholars@irena.org](mailto:scholars@irena.org)



# Why Did You Apply for an IRENA Scholarship?



**Apoorva Santhosh - India**

**Research Topic: Market Level Analysis for Renewable Energy Integration into Power Grids**

“The IRENA Scholarship Programme is a unique opportunity to meet interesting people and advance my studies. I am proud to be part of the IRENA family and learn more about renewable energy.”



**Edwin Fonkwe Fongang - Cameroon**

**Research Topic: Design and Implementation of a Single-Phase Module Integrated Converters with Maximum Power Point Tracking**

“The IRENA Scholarship Programme is an excellent initiative to promote renewable energy knowledge and further the positive impact of renewable energies around the globe. I will definitely draw from the knowledge I have acquired when I go back to my country.”



**Luiz Augusto Friedrich - Brazil**

**Research Topic: City Energy Modeling: Feed-in Tariff and Subsidies for the Adoption of Rooftop Mounted PV Cells**

“My motivation for joining this programme was to be part of a worldwide energy transformation for the greater good of mankind – be it in terms of economy, ecology, or its social aspects.”



**Reem Al Junaibi - United Arab Emirates**

**Research Topic: Reliable Operation of Power Grids in the Presence of Increasing Penetration of Renewable Energy in UAE**

“The programme gives a unique opportunity of being surrounded by people who want to make a change for the better. I love being part of this movement, and contribute my part when it comes to addressing global challenges with practical solutions. I thank IRENA and the UAE Government for this opportunity.”



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