

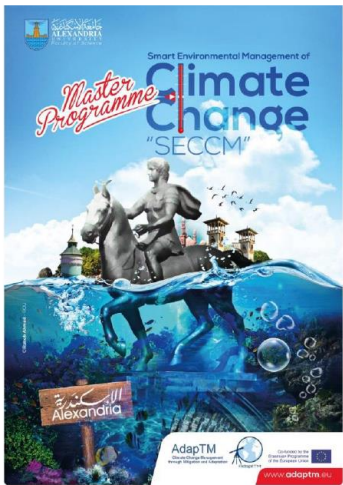
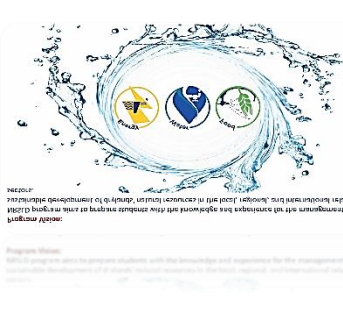





### Impactful university program(s) on climate change

No	Programs	Scope (international / regional / national / local / etc)	Total Participants	Photo	URL	Short Description
1	Solar Energy Center at the Faculty of Science (Alexandria University)	<ol style="list-style-type: none"> <li>1) Research and development,</li> <li>2) Energy saving and environmental benefits.</li> <li>3) Education and Training:</li> </ol>	20 Professor at Physics Department and 10 postgraduate students and 40 students			<p>Project title: Development and implementation of decentralised solar-energy-related innovative technologies for public buildings, in the Mediterranean Basin</p> <p>The system of solar energy applied at the Faculty of Science in El Shatby is BIPV Façade Brise-Soleil, using Crystalline Semi-transparent glass-laminated Solar Technology.</p>
2	Solar Energy Center at Faculty of Science in Moharram Bek (Alexandria University)	<ol style="list-style-type: none"> <li>1) Research and development</li> <li>2) Energy saving and environmental benefits.</li> <li>3) Education and Training:</li> </ol>	Professor at Physics Department and 10 postgraduate students and 40 students			<p>Project title: Development and implementation of decentralised solar-energy-related innovative technologies for public buildings, in the Mediterranean Basin</p> <p>The system of solar energy applied at the Faculty of Science in Moharam Bek is BIPV in the Garden Pergola, using Thin film Semi-transparent glass-laminated thin film Solar Technology.</p>

						While, that used for the BIPV Roof Pergola is performed using Flexible thin film Solar Technology.
3	Smart Environmental Management of Climate Change in collaboration with Catania University, Italy	2 year International Postgraduate Master program (4 semesters) at the Faculty of Science	30 Professors and Associate professors. 10-15 students join the program Yearly		<a href="https://emuni.si">https://emuni.si</a> › ADAPTM-handout_2_Mod	<b>AdapTm-Erasmus project</b> The participating countries and Universities: Italy, Greece, Lithuania, Slovenia, Egypt (Alexandria University, Suez Canal University, South Valley University, Arab Academy for Science and Technology and Maritime Transport).
4	Natural Resources Sustainability for Land Development in collaboration with Aachen University, Germany	2 year International Postgraduate Master program (4 semesters) at the Faculty of Science	30 Professors and Associate professors. 10-15 students join the program Yearly		<a href="https://suremap.eu">https://suremap.eu</a> <a href="https://www.facebook.com/suremapproject">https://www.facebook.com/suremapproject</a> <a href="https://www.linkedin.com/company/suremap-project">https://www.linkedin.com/company/suremap-project</a>	<b>Erasmus+ Project, European Union</b> The participating countries and Universities: Germany (RWTH Aachen), Egypt (Alexandria University, Heliopolis University, the American University in Cairo, Aswan University), Cyprus (CITY College – Sheffield University), Italy (University of Palermo), Spain (Technical University of Madrid).
5	Sustainable Management of Fisheries and Aquaculture Science, in collaboration with University	2 year International Postgraduate Master program (4 semesters) at the Faculty of Science	30 Professors and Associate professors. 10-15 students join the program Yearly		<a href="http://fishaqu.eu">http://fishaqu.eu</a>	(Erasmus+ Project, European Union) The participating countries and Universities: Portugal (University of Aveiro), Italy, Croatia, Slovenia, Egypt (Alexandria University, Aswan University, Matrouh University, Arab Academy for Science and Technology and Maritime Transport).

	of Aveiro, Portugal.					
6	Production of Bio-Diesel from Algae in Selected Mediterranean Countries: Med-Algae Project, Faculty of Sciece, Alexandria University, Egypt	<p>Research project: The project objective is to explore:</p> <p>1- The development of microalgae-based biodiesel production and other valuable products in six Mediterranean countries (Cyprus, Egypt, Greece, Italy, Lebanon and Malta).</p> <p>2- The current level of technology, the relevant market structure, and the governmental and environmental boundaries will be mapped in the participating countries, in order to identify the most promising strategies in each country.</p>	15 Professors and Associate professors. 10-15 postgraduate students	 <p>Med-algae</p> <p>Visitors, Stakeholders &amp; Media</p> <p>Project funded by the EUROPEAN UNION</p>		It is funded by CBCMED-ENPI (CROSS BORDER COOPERATION IN THE MEDITERRANEAN-European Neighborhood and Partnership Instrument)
7	Solar Energy Center at the Faculty of Agriculture	<p>1) Research and development: Encouraging applied research on renewable energy at AU and through collaborations with other national and international universities. Development of hybrid systems in renewable energy and its uses in water pumping and water desalination and development of remote and desert areas. Development of research in energy from biomass and waste.</p>	20 Professor and 60 students	 <p>Hybrid system</p> <p>Wind Turbine</p> <p>Batteries</p> <p>RO Desalination Unit</p> <p>Small Mini Grid</p>	E-learning courses on the site Link: <a href="http://www.areac-agr.com">www.areac-agr.com</a>	<p>The Faculty of Agriculture has 2 renewable energy centers and on center at the main building of the University.</p> <p>1) The renewable Energy Center in Wadi Natrun.</p> <p>There are two units from the network:</p> <ul style="list-style-type: none"> <li>-7 kw hybrid unit for photovoltaic cells and 5 kw for air turbine.</li> <li>-50 kw hybrid unit for photovoltaic cells and 50 kw for air turbines (under maintenance).</li> </ul> <p>They are all used in student training and research for graduate students and faculty members.</p>

		<p>Development of thermal uses of solar energy.</p> <p>2) Consultations: Various consultations in renewable energy systems, especially hybrid systems, drying and solar heating.</p> <p>3) Education and Training: Supporting the renewable energy education at AU. Developing and delivering courses, e-learning, workshops, training courses, and conferences on various renewable energy systems.</p> <p>4) Serving the Egyptian community by providing all renewable energy information to the public.</p>				<p>2) The renewable Energy Center at the Agriculture Research and Experiments Station in Abis Campus. -The capacity of the center is 130 kw/h connected to the electricity grid.</p> <p>3) The renewable Energy Center at the main building of the University. -The capacity of the center is 20 kw/h connected to the electricity grid.</p> <ul style="list-style-type: none"> <li>The center along with partner from Greece, Germany, Spain, Morocco and Tunisia were awarded a Six Frame work project (FP6 project) from the European commission to develop Hybrid renewable energy system to supply service for Mediterranean partner countries.</li> </ul>
8	Climate Change and Sustainable Development Master Program	2 year National Postgraduate Master program (4 semesters) at the Higher Institute of Public Profession	15 Professors and Associate professors. 10-15 postgraduate students join the program Yearly			<ul style="list-style-type: none"> <li>The climate change and sustainable development master degree prepares graduates to target jobs in the various emerging career paths in environmental economics and climate change including: <ul style="list-style-type: none"> <li>Governmental agencies and municipalities which develop plans for climate change mitigation and adaptation.</li> <li>Consultancy companies carrying out Environmental Impact Assessment, developing, implementing or monitoring climate change mitigation and adaptation projects.</li> <li>Climate change research, teaching and information dissemination.</li> </ul> </li> </ul>

						<ul style="list-style-type: none"><li>• NGOs and stakeholder organizations involved in climate change impacts assessment and sustainable development.</li></ul>
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**Additional evidence link:** <https://alexu.edu.eg/index.php/about-us-ar>

**Link for LED lighting:** [https://alexu.edu.eg/index.php/?option=com\\_content&view=article&id=5935&catid=21&lang=ar-AA](https://alexu.edu.eg/index.php/?option=com_content&view=article&id=5935&catid=21&lang=ar-AA)

**Link for Solar Energy:** [https://alexu.edu.eg/index.php/?option=com\\_content&view=article&id=5936&catid=21&lang=ar-AA](https://alexu.edu.eg/index.php/?option=com_content&view=article&id=5936&catid=21&lang=ar-AA)

**Link for Sustainable Development:** <https://alexu.edu.eg/index.php/en/sustainable-development>

**Link for Green University:** [https://alexu.edu.eg/index.php/?option=com\\_content&view=article&id=5932&catid=21&lang=ar-AA](https://alexu.edu.eg/index.php/?option=com_content&view=article&id=5932&catid=21&lang=ar-AA)

## الطاقة الشمسية بكلية العلوم طاقة نظيفة صديقة للبيئة

تطبيق نظام البناء المتكامل باستخدام  
الخلايا الشمسية (BIPV)



لمزيد من المعلومات:  
قسم الفيزياء - كلية العلوم - جامعة الإسكندرية  
أ.د. أسامة الشاذلي  
[elshazlyo@gamil.com](mailto:elshazlyo@gamil.com)  
د. أشرف عبد المنعم  
[ashmoussa2@yahoo.com](mailto:ashmoussa2@yahoo.com)

## مبنى كلية العلوم بالشاطبي الألواح الشمسية الشفافة واجهة جميلة للمبنى



تعمل الألواح الشمسية الشفافة كستائر شمسية للمبنى (حجب أشعة الشمس، وفي نفس الوقت تسمح بمرور الضوء للداخل المبنى، كما أنها تتميز بجمالية للمبنى، بجانب توليد الطاقة الكهربائية).



### BIPV Façade Brise-Soleil

Technology	Semi-transparent glass-laminated crystalline modules
Rated Power	17.26 kWp
Electrical Energy	26.35 MWh/year (approximate)
Energy Savings	7.7 % of the total used energy of El-Shatby Building
Number of modules	120
Panels area	140 m <sup>2</sup>

## مبنى كلية العلوم بمحرم بك



## أنواح مرنة للمظلة ذات الاستخدامات المتعددة



تقع المظلة أعلى سطوح أحد مباني الكلية، وتتميز بمظهرها الإسطواني، واستخداماتها المتعددة، بجانب توليد الطاقة الكهربائية.

BIPV Roof Pergola	
Technology	Flexible thin film
Rated Power	4.1 kWp
Electrical Energy	7.27 MWh/year (approximate)
Energy Savings	1.25 % of the total used energy of Moharam Bek Building
Number of modules	60
System area	66 m <sup>2</sup>

## مبنى كلية العلوم بمحرم بك



## المظلة الشفافة ذات الاستخدامات المتعددة



تقع المظلة بجانب كافتيريا الطلبة، وتتميز بلمحنتها الجمالية وتجب أشعة الشمس، وفي نفس الوقت تتيح إضاءة جيدة، بجانب توليد الطاقة الكهربائية.

BIPV Garden Pergola	
Technology	Semi-transparent glass-laminated thin films
Rated Power	8.1 kWp
Electrical Energy	16 MWh/year (on the average)
Energy Savings	2.75 % of the total used energy of Moharam Bek Building
Number of modules	90
System area	132 m <sup>2</sup>

## طاقة خضراء مستدامة صديقة للبيئة

(رؤية مصر ٢٠٣٠)

قامت كلية العلوم بالإستفادة من الطاقة الشمسية بتنفيذ ثلاث محطات لتوليد طاقة كهربائية نظيفة، عملا من منطلق أن جامعة الإسكندرية تعرص على أن تكون جامعة صديقة للبيئة وذلك بالحد من الأثر البيئي للإنبعاثات الغازات المسببة للاحتباس الحراري (الناجم من قطاع الطاقة) عن طريق توفير التكنولوجيا المستدامة اللازمة، تماشيا مع رؤية مصر ٢٠٣٠.

الإبعاثات التي توفرها أنظمة أنظمة الطاقة الشمسية (فى مدة ٢٥ عاما)	
غاز (CO <sub>2</sub> )	٥٥٦,٩٣٥ كجم
غاز (SO <sub>2</sub> )	٢,٠٠٤ كجم
غاز (NO <sub>x</sub> )	٦٦٨,٣٢٢ كجم

## نظام البناء المتكامل باستخدام الخلايا الشمسية

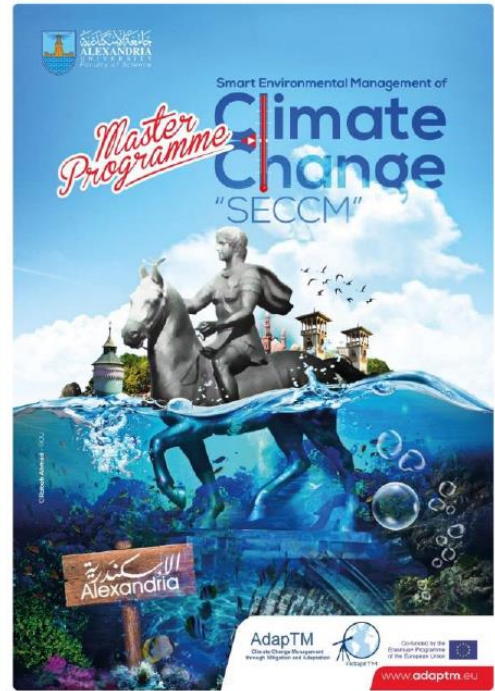
يعتبر نظام البناء المتكامل باستخدام الخلايا الشمسية (BIPV) نظام متعدد الوظائف، حيث تصل الخلايا الشمسية محل مواد البناء التقليدية بالإضافة إلى توليد الطاقة الكهربائية، وهو نظام حديث تم تطبيقه لأول مرة بالإسكندرية، وتتميز أنظمة الطاقة الشمسية التي تم تركيبها بأنها جزء من المبنى وتؤدي أكثر من وظيفة، فهي توفر الحماية من أشعة الشمس، وهو أمر ضروري للغاية في الإسكندرية لإرتفاع درجة الإشعاع الشمسى بها، وفي نفس الوقت لا تعجب الضوء، كما أن لها مظهر جمالى يزيد من قيمة المبنى، بجانب توليد الطاقة الكهربائية.

## تعريف الطلاب والمجتمع المدني بأهمية الطاقة الشمسية

لقد تم تصميم ثلاث نماذج مختلفة من تطبيقات نظام البناء المتكامل باستخدام الخلايا الشمسية وتثبيتها بكلية العلوم - جامعة الإسكندرية لإتاحة الفرصة للطلاب والمجتمع المدني بالإسكندرية لزيادة وعيهم بأهمية الطاقة الشمسية والتعرف على أحدث الأنظمة.

## أنظمة الطاقة الشمسية بكلية العلوم

القدرة الكلية	٢٩,٥ كيلو وات
الطاقة الكهربائية المنتجة فى الفترة من يونيو ٢٠١٦ إلى ديسمبر ٢٠١٩	٩٦,٩ ميغا وات. ساعة
إجمالى الثمن الكلى للطاقة المتولدة (تسعيرة شركة الكهرباء ٠,٩٥ جنيها/كيلووات)	٩٢٠٥٥ جنيها



Smart Environmental Management of

# Climate Change

"SECCM" *Project Master*

### Cooperation

**SECCM** is a Master Degree program: the result of cooperation between 4 Egyptian Universities and 4 European universities and institutions in the framework of Erasmus+ funded project "Climate Change Management through Adaptation and Mitigation – AdapTM" (2017-2020). The cooperatively designed program benefits from an international and interdisciplinary perspective, European framework of recognition and wide network of involved professors.

Egyptian Partners	European Partners
Alexandria University	University of Catania, Italy
Arab Academy for Science and Technology and Maritime Transport	University of Klaipėda, Lithuania
Suez Canal University	Euro-Mediterranean University, Slovenia
South Valley University	National Observatory of Athens, Greece





**M.Sc. in:**  
**Natural Resources Sustainability for Land Development (NRSLD)**  
*Under the framework of SuReMap project*  
*(Sustainable Resource Management Programme to solve Deserted Challenges)*

**SuReMap Project:**

Aims to establish interdisciplinary programs that train students to address water, energy & food-related challenges in "Egypt's 2030 strategy".

NRSLD is an outcome of the SureMap Erasmus+ project that includes a consortium of 8 Egyptian and European universities. The program is cooperatively designed by the consortium, therefore; it has the advantage of the international and interdisciplinary perspective, European framework of recognition, and benefits from a wide network of participating professors from the following universities: RWTH Aachen, Heliopolis University, Alexandria University, CITY College – Sheffield University, The American University in Cairo, University of Palermo, Aswan University, and Technical University of Madrid.

**Program Vision:**

NRSLD program aims to prepare students with the knowledge and experience for the management and sustainable development of drylands' natural resources in the local, regional, and international related sectors.

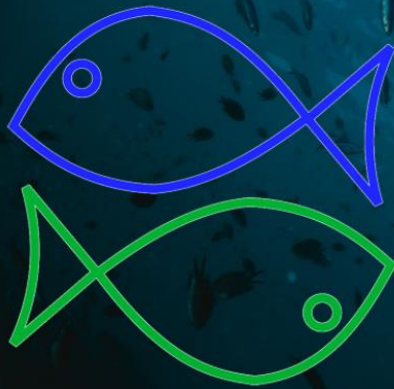


**Program Mission:**

The Faculty of Science through NRSLD program seeks to qualify the graduates to be competitive at local, regional, and international levels, by creating an appropriate educational environment and fostering ethically, scientifically, and professionally sound approaches that enable graduates to serve the community and the institutions closely related to sustainable development plans.



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 ethically, scientifically, and professionally sound approaches that enable graduates to serve the community  
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**FISHeries**  
**AQUaculture**

# FishAqu Project

A consortium of eight EU & Egyptian universities are establishing a modern, needs-oriented master study programme on fisheries and aquaculture.

Med-algae  
Production of Biodesign from Algae



Visitors,  
Stakeholders &  
Media

29 March 2014

