RMEIM
Ecoles d'Ingénieurs et de Management

MEDACCRED V

5TH SYMPOSIUM ON THE ACCREDITATION

GENDER, INCLUSION & GREEN EDUCATION

Experiences and Strategic Challenges from Mediterranean Schools

Ibtissam Medarhri
ENSMR

12 DÉCEMBRE 2025

Three Strategic Challenges

Gender Equality

Combating stereotypes and increasing female participation in STEM fields across the region.

Inclusive Education

Opening doors for diverse populations, including socio-economic aid and international mobility.

Green Education

Integrating sustainability and climate resilience into the core engineering curriculum.

The Mediterranean Context

The Mediterranean basin is a climate change hotspot, warming 20% faster than the global average. Schools here are not just places of learning, but potential hubs for community resilience.

From water scarcity to desertification, the environmental challenges are tangible. Yet, cultural norms and economic disparities often limit who gets to participate in solving these problems.

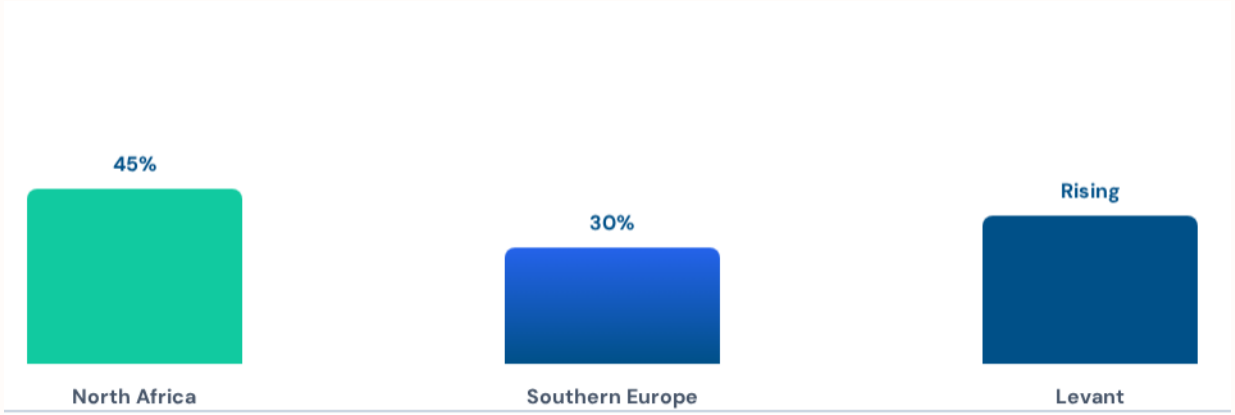
Gender Dynamics in Engineering

❑ Worldwide Situation

- Only 28% of engineering graduates worldwide are women.
- This rate has been stagnant for the last decade.
- Persistent gap in leadership positions.

Gender Dynamics in Engineering

Female Participation Rates



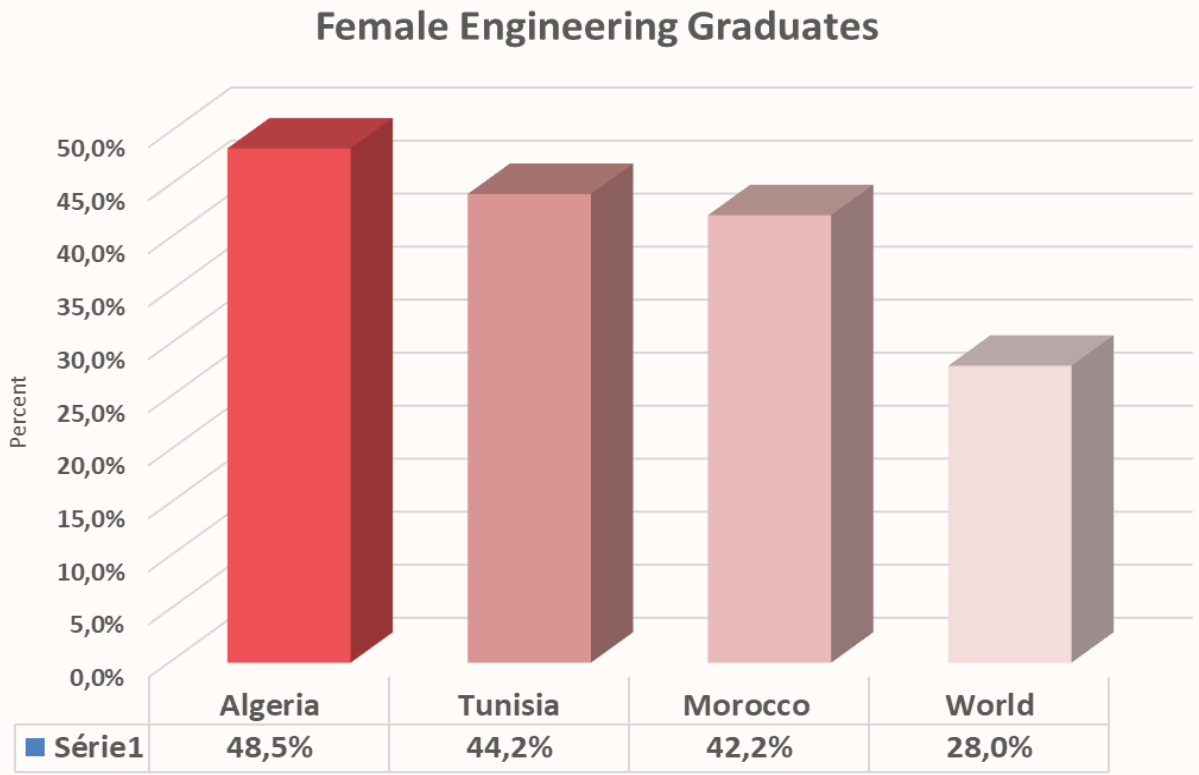
Regional Disparities

While North Africa (Tunisia, Morocco, Algeria) demonstrates significantly higher participation (35-55%), Southern Europe currently trails at 25-35%.

> *"The Levant region (Lebanon, Egypt) is witnessing a promising rise in female enrollment in engineering disciplines."*

Gender Dynamics in Engineering

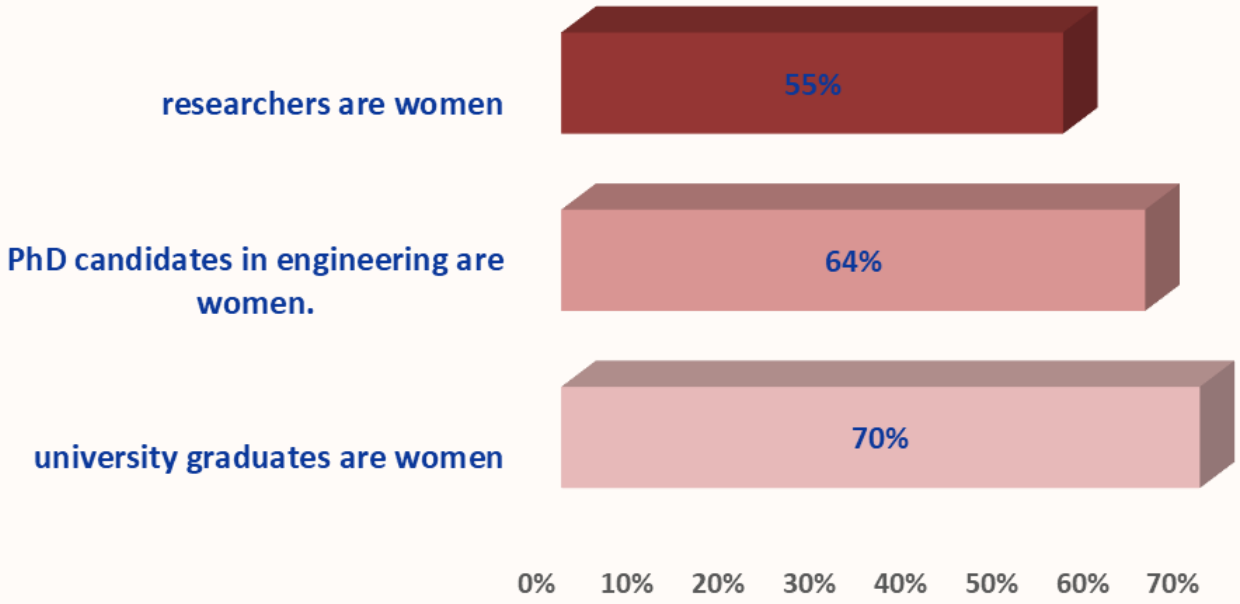
❑ Female Engineering Graduates in Maghreb



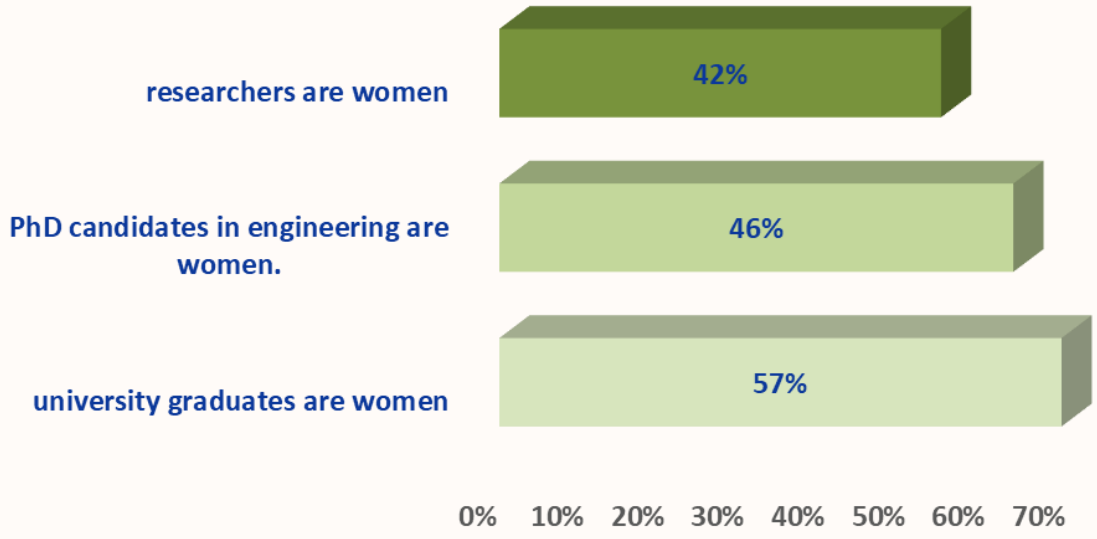
Gender Dynamics in Engineering

❑ Female Engineering Graduates in Maghreb

- **Tunisia:**



- **Morocco:**



Inclusion Beyond Gender

Socio-Economic

Mediterranean institutions are adopting frameworks to support students from all backgrounds.

- Scholarships for low-income students.
- Specific aid for rural populations.
- Preparatory programs for smoother transitions.

International & Access

Creating a borderless and accessible educational environment.

- Strong student mobility across the Mediterranean.
- Multilingual courses to facilitate integration.
- Campus accessibility and adapted support for disabilities.

Green Education Imperative

The Mediterranean faces critical environmental threats: water scarcity, desertification, and forest fires.

Educational Response:

- Mandatory sustainability modules in curricula.
- Creation of Green Labs and Eco-Innovation Hubs.
- Student-led projects focused on renewable energy (Solar & Wind).

Challenges to Address

Access Barriers

Significant gaps exist between rural and urban educational resources, limiting access to quality green education for remote communities.

Climate Urgency

The rapid onset of climate impacts requires immediate adaptation skills that current static curricula often fail to provide.

Curriculum Gaps

A lack of interdisciplinary approaches prevents students from seeing the holistic connection between society and nature.

Synergy: The Triple Approach

Theme	Educational Impact	Observed Outcomes
Gender	Diversity in teams	Higher creativity and innovation in problem-solving.
Inclusion	Broader access to engineering	Stronger talent pipeline and social mobility.
Green Education	Environmental responsibility	Technical solutions with real, measurable social impact.

Regional Experiences

Tunisia

Leading with up to 50% women in some fields. Strong active IEEE Women in Engineering chapters.

Spain (UPC)

Implemented a "Sustainability - by-design" model integrated across all curricula and Green campus initiatives.

Lebanon

Focus on climate-oriented engineering programs and innovation incubators for green solutions.

Focus on Morocco

Green Education in Moroccan

Many Moroccan schools drive national strategies in sustainability, digital transformation, and educational inclusion.

- EMI, ENSMR
- ENSAM (Casablanca, Meknès)
- ENSA Network
- INSA Euro-Méditerranée
- UM6P, UIR

Gender in Moroccan Engineering

45%

In Industrial & IT Fields

- **H2O Maghreb** is a program of ONUDI (Organization of Nations for Industrial Development) that aims to prevent durable gestion of water in Morocco and the region Maghreb/MENA
- Training in water and Industry 4.0.
- Integrated gender equality goals

Strong Progress & Initiatives

Women are highly represented, though fewer in mechanical/electrical fields (20-30%).

Key Initiatives:

- IEEE WIE Morocco Chapters.
- Government programs promoting women in STEM.
- **Leadership projects** at UM6P and UIR to empower future female leaders,
- **Workshop of Gender equality and sustainability** at ENSMR

Green Education: A National Priority in Morocco

Strategic Relevance

Morocco is a global leader in renewable energy:

- **NOOR Ouarzazate**, one of the world's largest solar power complexes
- National hydrogen green strategies
- Water stress and climate resilience as engineering priorities

Green Education: A National Priority in Morocco

Green Education: A National Priority

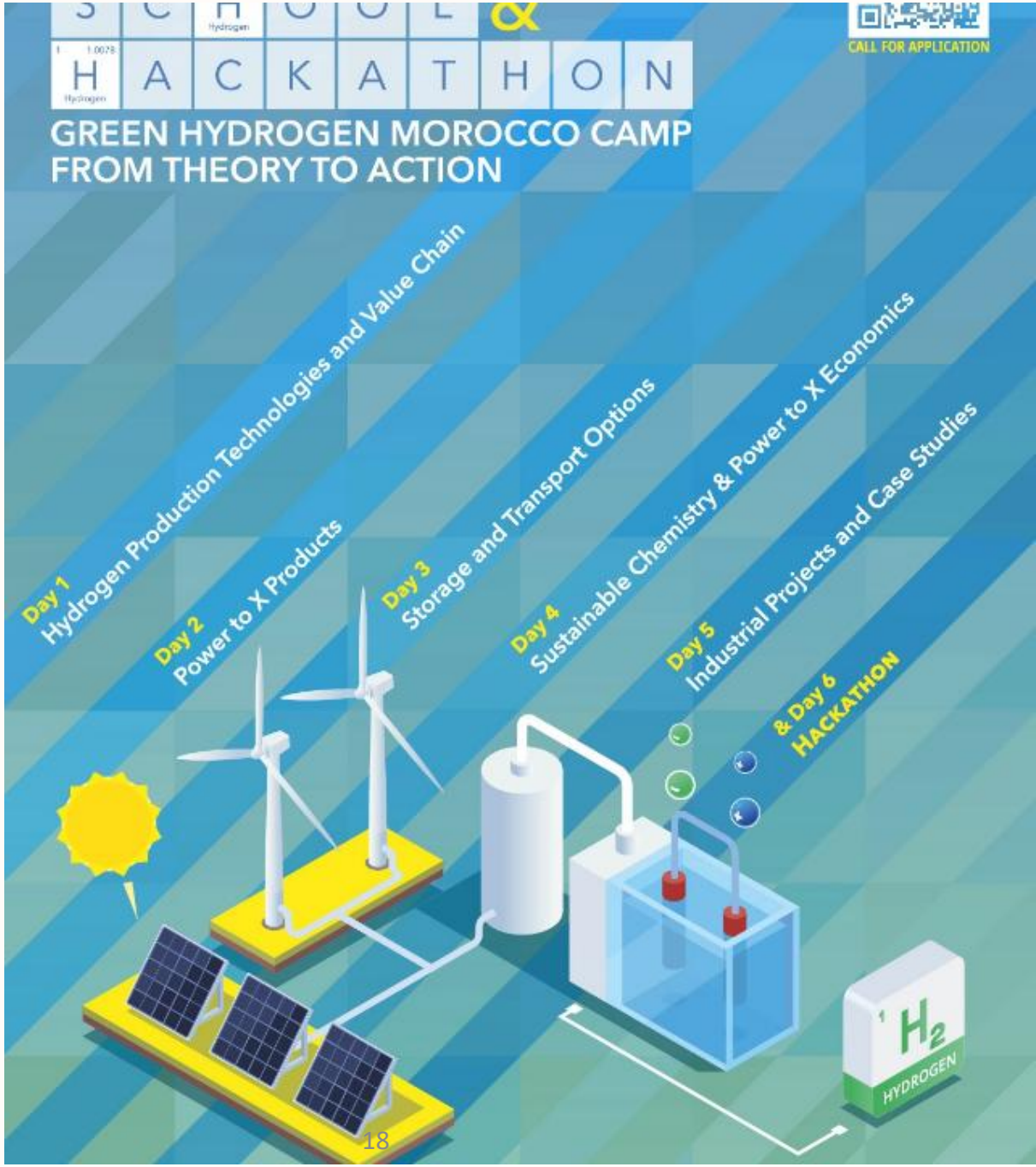
Morocco is a global leader in renewables, influencing engineering curricula at schools.

Integration in Programs:

- Integrating solar power complexities into study modules: Solar/wind energy & energy efficiency.
- **Green Tech:** Focus on green hydrogen and water stress resilience: Smart agriculture, hydrology, climate tech, Circular economy.

Other:

- **Student Innovations:** IoT irrigation systems, Smart buildings,
- **Masterclass:** Green Hydrogen, Nexus, …
- **Hackathon**: Giz comme exemple



Strategic Vision

Institutions

Train faculty in inclusive pedagogy and expand mandatory sustainability modules.

Students

Engage in interdisciplinary green projects and develop inclusive leadership soft skills.

Industry

Co-develop green projects and encourage female participation via internships.

RMEIM Experience

RMEI Strategy: The TARGET Project

Reflexive Gender Equality

RMEI (Réseau Méditerranéen des Ecoles d'Ingénieurs) serves as a critical partner in the Horizon 2020 **TARGET Project**.

- **Action:** Developing bespoke Gender Equality Plans (GEPs) for engineering institutions.
- **Goal:** "Taking a Reflexive approach to Gender Equality for institutional Transformation."
- **Outcome:** A sustainable quality culture that actively combats gender bias in Mediterranean STEM research.

European Commission

RMEI réseau méditerranéen des écoles d'ingénieurs

UNESCO Organisation des Nations Unies pour l'éducation, la science et la culture

uniTwin Chaire UNESCO « Innovation pour le développement durable »

TARGET } Taking a Reflexive approach to Gender Equality for institutional Transformation

Project acronym	TARGET
Project name	TARGET - TAking a Reflexive approach to Gender Equality for institutional Transformation
Project type	Coordination and Support Action
Start date of the project	01 / 05 / 2017
End date of the project	30 / 04 / 2021
	This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741672.

RMEI Strategy: The TARGET Project

The RMEI Working Group on Gender Equality

The starting point for the establishment of a gender equality-working group within RMEI is a group of representatives of universities. All representatives are senior researchers at their own organization, bring along gender competence and are committed to participate actively in TARGET.

1. **Anastasia ZABANIOTOU**, Greece
2. **Olivier BOIRON,** France
3. **Fatma ASHOUR**, Egypt
4. **Ibtissam MEDARHRI,** Morocco
5. **Khalid NAJIB**, Morocco
6. **Massimo GUARASCIO**, Italy
7. **Mara LOBARDI**,Italy
8. **Najwa ABENAMARA,** Tunisia
9. **Moncef GHISS,** Tunisia
10. **Juan Jesus PEREZ**, Spain
11. **Irene JORGE**, Spain

RMEI Strategy: The TARGET Project

RMEI Strategy: The TARGET Project

GAMe: Workshop MichelAngelo

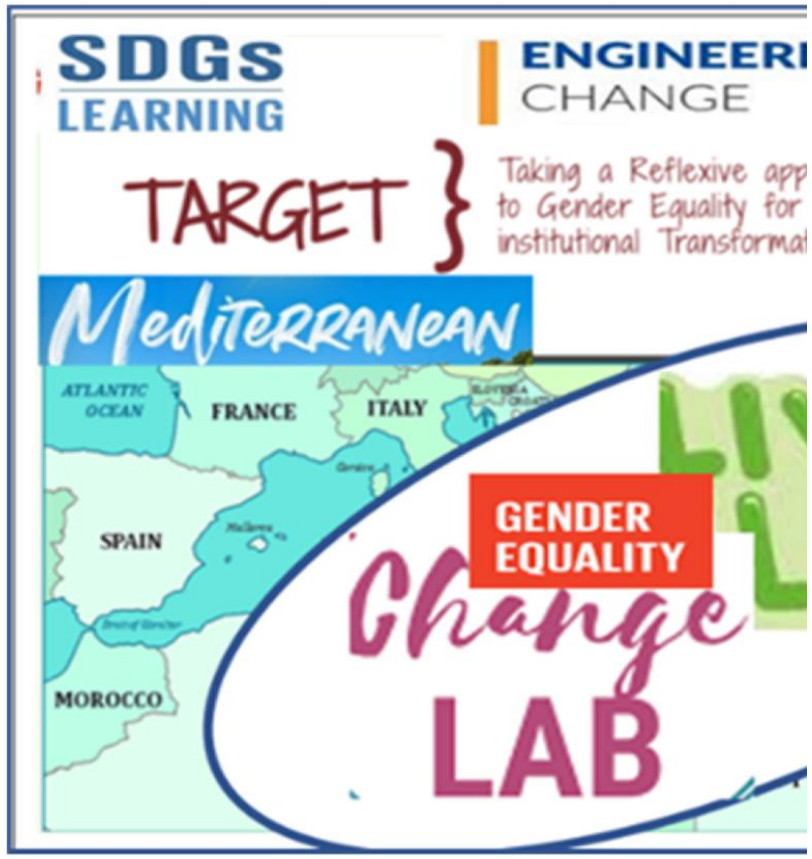
While TARGET addresses policy, the **Workshop Michelangelo** brings RMEI's vision to life through direct action.

This flagship initiative gathers engineering students and professors from across the Mediterranean for intensive, collaborative problem-solving sessions.

Sustainable Solutions: Teams work on real-world "Green Education" challenges, designing eco-friendly prototypes and systems.

Cross-Cultural Teamwork: Students learn to navigate diverse perspectives, a key skill for inclusive engineering.

GAMe: Workshop MichelAngelo



unesco Chair

RESEAU MEDITERRANEEN RMEIM Ecoles d'Ingénieurs et de Management

MICHELANGELO VIII

Risk, Resilience, and Sustainability in Water Management

Sfax, Tunisia April 24-25, 2024

Michelangelo workshops are events organized by our Unesco network for students from network members. They enable students from countries bordering the Mediterranean to exchange and compare ideas on themes related to sustainable development. Following the last edition, which took place in 2019 at Rome's Sapienza University and at the University of L'Aquila, we are pleased to announce that the 8th edition will be held in Sfax on April 24-25. This year's event will focus on a theme of particular interest to all Mediterranean people: **water**. You will find below the main elements of participation. As with every Michelangelo event, the network is able to provide financial support for a few students who meet the eligibility criteria, so please send us your students' applications as soon as possible (maximum 2 per institution).

“ We do not inherit the earth from our ancestors; we borrow it from our children.”

« Nous n’héritons pas la terre de nos ancêtres, nous l’empruntons à nos enfants. »

Thank You