

**Morocco**  
**Member of ICHMT**  
**(1) Overview**

(West Africa Time : UTC +1, Population: 37 million)

**1. Organizations**

The Moroccan Association of Thermal Sciences (AMT) is the leading association of Moroccan academic scientific researchers and professionals dealing with thermal sciences and related areas such as heat and mass transfer, fluid mechanics, thermodynamics, combustion, solar energy applications and other energy systems. It was founded in 2008 in the city of Settat following a national conference on thermal sciences and transport phenomena organized at the Faculty of Sciences and Technology, University Hassan I.

AMT is a non-governmental and non-profit organization that aims to gather all Moroccan scientific researchers in the thermal sciences field. It is an institutional member of Int. Heat and Mass Center (ICHMT) since May 2010.

Presently, the secretariat of AMT is located at the Faculty of Sciences Ain-Chock which belong to Hassan II University in Casablanca.

The main objectives of AMT is to establish and promote scientific cooperation and exchange of the fundamental as well as applied knowledge in the field of thermal sciences among researchers in the Moroccan academic institutions and industry practitioners. In addition to promote and foster international cooperation in thermal sciences and applications. To this end, AMT organizes regular national and international scientific meetings.

Website: <http://amth.ma/>



**2. Major meetings**

The major scientific meeting of the Moroccan Association of Thermal Sciences (AMT) is the International Congress on Thermal Sciences, which is a biennial conference that have been initiated in 2010 in partnership with Moroccan Universities. This conference used to attract over 200 scientists and researchers with typically more than 150 papers. In addition to the Moroccan researchers, the participants are from Maghreb countries, especially Algeria and Tunisia, but also from European and American countries. The Congress aims to be a platform for researchers, academic scientists and practitioners to share their experiences on all aspects of thermal sciences. It promotes collaboration between university laboratories and professionals, and stimulates collaboration between national researchers and their international counterparts. Each edition of the Congress focuses on a main topic related to the Moroccan energy context. Beside the main theme, the Congress used to cover other topics such as heat and mass transfer, fluid mechanics, energy efficiency and renewable energies thermal applications, industry thermal processes, thermal systems and combustion, materials thermal characterization, materials for energy, thermal measurement techniques, etc.

**International Congress on Thermal Sciences previous editions:**

Edition	Main Theme / Topic	Location & University partner
AMT*2010	Moroccan renewable energy strategy	Hassan I University, Settat
AMT*2012	Energy Efficiency in Industry	Hassan Second University, Casablanca
AMT*2014	Thermal Solar Energy & Environment	Ibn Zohr University, Agadir
AMT*2016	Buildings Regulation in Morocco	Moulay Ismail University, Meknes
AMT*2018	Thermal Energy & Sustainable Development.	Cadi Ayyad University, Safi
AMT*2020	Thermal Energy & Industrial Issues	S. M. Slimane University, Khouribga
AMT*2022	Energy Efficiency	Ibn Zohr University, Ouarzazate

AMT also used to organize specific national and international seminars and workshops as well as trainings for Doctoral students. Some major past seminars are listed below

Event	Topic	Location & Partners
<b>1st Seminar on Concentrating Solar Power &amp; Energy Efficiency</b> 26-28 April 2011	R&D opportunities in Concentrating Solar Power Plants & Energy Efficiency in Buildings	<b>Location :</b> Cadi Ayyad University Marrakech <b>Partners:</b> CNEREE Marrakech, CNRST Rabat, PSA Almeria Spain
<b>Training on TRNSYS software</b> 9-11 June 2015	Training on TRNSYS software for Moroccan Doctoral students	<b>Location :</b> Cadi Ayyad University Marrakech <b>Partner:</b> CNEREE Marrakech
<b>Workshop on Construction Materials Characterization</b> 9 July 2019	Thermal Characterization Methods of Construction Materials	<b>Location :</b> Hassan II University, Casablanca <b>Partner:</b> ENSEM Casablanca



**3. Major journals**

There is no national journal specifically dedicated to heat and mass transfers.

Some national journals publish papers on heat and mass transfers. Many journals are endorsed by the Moroccan Institute for Scientific and Technologic Information IMIST, which belong to the National Center for Scientific and Technology Research: <https://revues.imist.ma>

**4. Foundations of Scientific Research**

Most State-funded research grants are administered by the following institutions:

- National Center for Scientific and Technology Research [www.cnrst.ma](http://www.cnrst.ma)
- Institute of Research on Solar Energy and New Energies [www.iresen.org](http://www.iresen.org)
- Hassan II Academy of Sciences and Technology <http://www.academie.hassan2.sciences.ma>
- OCP Group Foundation <https://www.ocpfoundation.org>

Mostly, scientific research is conducted in public and public-private-partnership universities as well as in engineering higher schools. Other public or private institutions deal with scientific research such as IRESEN via its Green Energy Park platform (<https://www.greenenergypark.ma>), MASEN (Moroccan Agency of Sustainable Energy <https://www.masen.ma>), CNESTEN (National Center of Nuclear Energy, Sciences and Techniques <https://www.cnesten.org>), MOOS (Morocco OUKAIMEDEN Sky Survey astronomic observatory [www.moss-observatory.org](http://www.moss-observatory.org)), MAScIR (Moroccan Foundation for Advanced Science, Innovation and Research, <https://www.mascir.com>).

The Superior Council of Education, Training and Scientific Research (CSE <https://www.csefrs.ma>) is an independent and consultative institution that deals with public policy in education and scientific research. Higher education and scientific research is managed at the government level by the Ministry of Higher Education, Research and Innovation (ESRI, <https://www.enssup.gov.ma>).

**5. Education**

- Primary School, 6 years; Secondary School, 3 years; High School (*Baccalaureate Diploma*), 3 years.
- Undergraduate Studies in Vocational Training at Universities and OFPPT (*Technician Diploma*), 2 years.
- Undergraduate Studies in Sciences at Universities (*Licence/Bachelor Diploma*), 3-4 years.
- Undergraduate Studies in Engineering at Universities and Non-University Higher Schools (*Engineer Diploma*), 5 years.
- Graduate Studies: Master, 2 years; Doctoral, 3-4 years.

**6. University System**

Since 2003, the higher education in Morocco followed the European Bologna Process, LMD system, with "Licence", "Master" and "Doctorate". Since 2021, a Bachelor system is implemented in public universities instead of the six-semester *Licence* system.

Undergraduate studies are organized in universities and Non-University Higher Schools.

There is 12 public universities located in the main cities. 11 other universities are currently approved by the State. Most of them are private ones while the others belong to a public-private-partnership via public institutions.

Major engineering studies are implemented in Engineering Higher Schools, affiliated or not to universities, specialized in the major fields of engineering including thermal sciences. Engineering studies lead to Engineer's Degree equivalent to Master Degree. Most of these Engineering Schools are publics ones. Some private Engineering Schools, that do not belong to any private university, have received the State approval.

The retirement age for university professors is 65.

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Morocco, Member of ICHMT (2)

8th International Thermal Sciences Congress AMT'2024, ENSA, Al Hoceima

The 8th edition of International Thermal Sciences Congress AMT'2024, ENSA, Al Hoceima



**Prof Mustapha EL-ALAMI**, Hassan II University of Casablanca, Morocco, President of of the Scientific Committee of AMT2024

**Prof. Brahim Benhamou**, Cadi Ayyad University Marrakech, Secretary General of Moroccan Association of Thermal Sciences AMT

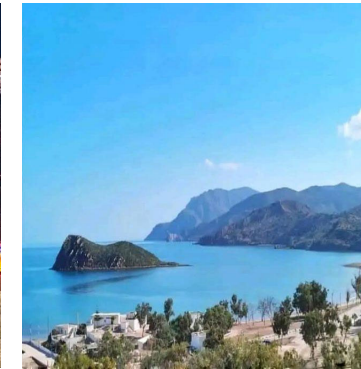
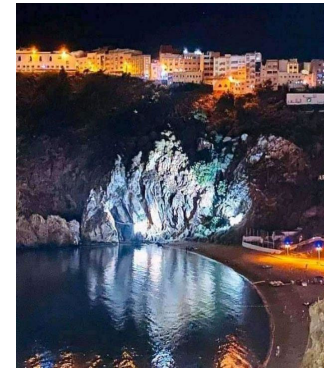
The International Thermal Sciences Congress is a periodic conference organized by the Moroccan Association of Thermal Sciences (AMT), once each two years, in collaboration with a public higher education establishment in Morocco. The 8th edition of this scientific conference (AMT'2024, <https://amth.ma/?p=4526>) will be organized jointly by the AMT and the Higher School of Applied Sciences (ENSA) in Al-Hoceima, which belongs to Abdelmalek Essaadi University (Morocco), on April 25-26, 2024. Al-Hoceima is a touristic seaside small town on the Mediterranean sea.

The main topic of AMT2024 is “Thermal sciences at the core of energy transition”, while the subtopics are: heat & mass transfer, Fluid mechanics, Renewable Energy & Energy Efficiency, Materials for Energy & the Environment and Advanced Mechanics & Thermal sciences. The scientific program includes four plenary keynotes closely related to the main topic. Furthermore, the conference participants will have the opportunity to present the up-to-date research in the above mentioned subtopics during the two days event. These presentations, given during Oral and Poster sessions, are based on peer-reviewed scientific contributions.

The International Congress of Thermal Sciences, through all its editions, has always been an excellent platform for scientific exchange on thermal sciences, heat transfer, energy efficiency, thermal measurement methods, environment and many other themes related to this area. The event, organized once during the even-numbered years since 2010, used to involve an average of 150 scientific contributions in the form of long-paper or short-paper. The presented long-paper contribution are published in an indexed journal while the short-paper ones are published in a local referenced proceedings.



Al Hoceima in North Morocco



Photos of Al Hoceima city



Photo of the plenary opening session of AMT '2018