

INORE: The International Network on Offshore Renewable Energy

The International Network on Offshore Renewable Energy (INORE) is a non-profit organization run by volunteers. INORE was born to support early stage researchers in the offshore renewable energy field. Today, INORE has more than 1200 members from more than 70 different countries. The aim of this organization is to facilitate networking and information exchange between young researchers and professionals. This is achieved by arranging symposia, workshops, networking events and issuing scholarships. Three main knowledge areas are currently within INORE's dedication: sea wave energy, tidal current energy and offshore wind energy.

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Introduction

INORE is a non-profit association of young researchers and professionals working in the area of marine renewable energy. Its dedication spans from offshore wind energy to sea wave energy and tidal current energy, and others. The activities of INORE are addressed to promoting education and knowledge sharing in the marine renewable energy field [1].

This organization was founded in Norway, in 2006, by a small group of Ph.D. students. Its initial purpose was to be a forum for exchanging experiences and ideas in the growing sector of marine renewable energy. Today, eight years later, INORE counts 1247 members from 73 countries, in its web page, and about 510 association members, or INOREans [2].

INORE has been able to gather an international and multi-disciplinary group of people, and to strengthen the bonds between early stage researchers through giving them the chance to know each other and cooperate, independently of their experience or nationality.

To achieve its goals, INORE helps itself with several *knowledge sharing tools*: symposia, workshops, technological challenges, scholarships, networking events and its web page.

INORE's knowledge sharing tools

Symposium

The symposium is the major event organized by INORE. It is an international meeting where about 70 young professionals and researchers get together to present, discuss and analyze their works, in an informal atmosphere (Fig. 1). A Symposium includes presentations, group works, poster sessions, technological site visits and inspirational talks given by keynote speakers. To build bonds

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FIGURE 1 Symposium participants doing group works

of collaboration, a symposium comprises also collaborative tasks: these are mini group-projects that participants work on for few days and report on at its end. They are usually designed with the help of INORE's partners (companies, research institutions, government agencies) and address real problems, providing a context for research and a broader understanding.

To make it different, and to accelerate the *getting-to-know-you* process, a symposium includes also funny and entertaining social activities, which mark the event as more informal, compared to traditional scientific events.



FIGURE 2 Group picture at the 2014 European symposium

N°	Location	Year	Attendees
5°	Alcoutim, Portugal	2011	58
6°	Thisted, Denmark	2012	45
7°	Boston, USA	2012	26
8°	Pembrokeshire, Wales	2013	50
9°	La Vega, Spain	2014	70

TABLE 1 Attendance data for the last five symposia

The symposium usually takes place in remote places, far from noisy cities with the aim of intensifying the experiences of its participants. Figure 2 shows a group picture taken at the last European symposium in the rural village of La Vega, in the region of Cantabria, Spain.

In Table 1 it is possible to find the most significant data about the last four INORE symposia. Recently, INORE managed to organize symposia also in North America and Canada. It is remarkable that these events are completely free for all the attendees, since INORE provides food, accommodation and transportation during the entire event.

In 2015, the 10th INORE symposium will take place in Naples, Italy. Since all the previous events were held in North Atlantic regions, this will be a unique opportunity to put the lights on the activities carried on in the Mediterranean Sea, for which Italy may lead the way.



FIGURE 3 Participants at the workshop and discussion forum at OMAE, in San Francisco, USA (June 2014)

Workshops

INORE often arranges workshops and discussion forums, in parallel with other international events or conferences, such as AWTEC [3], ICOE [4], OMAE [5] or EWTEC [6]. These are informal talks that usually last a few hours and manage to gather a wide public attention, taking place jointly with important events in the field.

A panel of experienced and well-known people leads the discussions, interacting with the audience, in an active exchange of ideas and opinions. Figure 3 shows participants of the workshop that INORE organized at OMAE 2014, in San Francisco, USA.

Technological challenges

Lately, INORE has organized what they call *technological challenges*. These are competitions between small groups of researchers, which last one or two days, hosted by a well-known research institution. Groups of 4 to 6 people are supposed to propose innovative solutions to some real, technological problem. Each team is provided with basic materials that can be used to solve the proposed puzzle. Experts of the host institution then evaluate the solutions and give a symbolic prize to the winners. An example is the Floating Wind Turbine Challenge [7], which took place in September 2011 in the MARIN laboratories in the

Netherlands. Figure 4 shows some representative moments of such challenge.

Scholarships and travel grants

In the last years, INORE has managed to collect funding to issue grants for its members. The ICIS (International Collaboration Incentive Scheme) scholarships are set up to allow young researchers to work with people of other institutions in collaborative, research projects. With a fixed budget, these are thought to facilitate the temporary relocation of the solicitants, allowing them to work *shoulder-to-shoulder* with their colleagues. To ensure that these grants are effective, the work resulting from this collaborations must be published in conferences, journals or freely distributed in the Internet, thus ensuring the maximum diffusion to the same [8, 9].

Web page

The major web-based *communication channel* used by INORE is its web page (www.inore.org). This acts as a forum where members and other users can exchange experiences, news, job offers and be updated about future INORE events. The web page is managed by the members themselves, since they can upload attachments, events, and update their profiles. INORE aims at spreading its work and its activities worldwide, therefore anybody can register



FIGURE 4 Floating wind turbine challenge moments

as a web member: today, 1247 members from 73 countries are networking on this virtual platform, which is still expanding. At the moment, INORE has invested part of its time and funding to refurbish its web page, in order to make it more user-friendly and efficient. Moreover, recently another activity has started: OpenORE (www.openore.org), a virtual space in which people can exchange open-source software to help themselves in the investigation of marine renewable energies.

Sustainability and transparency

Since it was founded, INORE managed to sustain economically all its activities, thanks to its sponsors. Every year, companies, government agencies, research institutes and universities kindly help INORE to keep organizing all its activities, which are year by year expanding and becoming bigger. In turn, INORE guarantees a complete transparency of all its outgoings, and delivers detailed reports to the sponsors underlining the advancements made thanks to their donations.

Conclusions

INORE is a non-profit organization whose final purpose is to foster collaboration and knowledge

sharing between young researchers in offshore renewable energy. Since its foundation in 2006, INORE has collected about 1200 members from more than 70 countries in the world. By means of an annual symposium, INORE facilitates the networking between researchers and professionals, increasing the possibilities of collaboration between different research centers. At the same time, through the ICIS grants, INORE promotes the cooperation between INOREans. INORE helps researchers and professionals to collaborate and cooperate with their colleagues in the field of offshore marine renewables, and thus contributes to move towards a sustainable energy world.

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